

Summer Internship @ LearningMate

May - June 2009

Kirti .H. Kanitkar

IDC, IIT Bombay

08633006

About LearningMate

- LearningMate is a company that started around 8 years back, a brain child of alumni of Industrial Design Centre, who are passionate about contributing the field of education.
- Currently almost all the work that is being done is of education content designing and creation.
- A fresh and young Design team is the biggest strength.
- The designers in the team are very dynamic and each individually is highly competent and multitasker.
- There are various other teams working in the office too, like Content writers, Flash programmers, Management group etc. each contributing their share to come up with the best output.

Assignments

- Objectives
- Understanding US education pattern/system
- Evaluating K12 courses developed by LearningMate
- Interacting with the K12 development team
- Presenting the findings

Approach

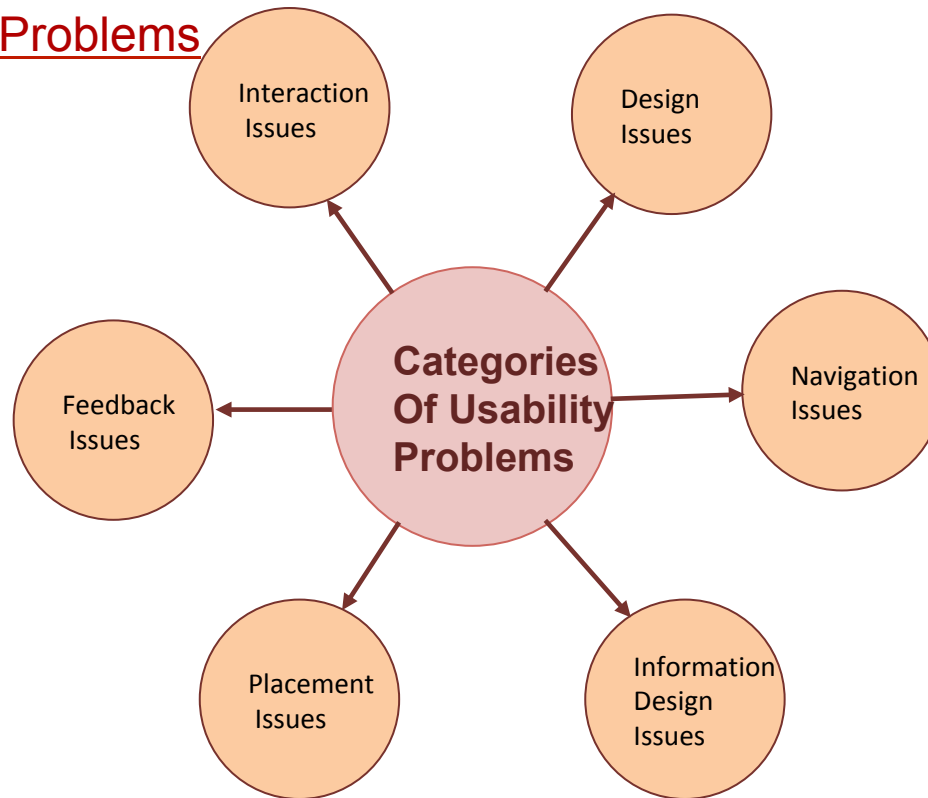
- Research on K12 and documentation
 - US Education system
 - Standards of education
 - Virtual school/ home school concept
 - Cultural / Social influences / Environment
 - Grades
 - Teaching methods to kids
 - Behavior Patterns of kids
 - Exposure to Media
- Finding ways where, the courses and the ideation can be enhanced

Approach

- Getting a brief about every course and considering the target group
- FLVS course – Middle school kids
- UCCP course – (Algebra 2) High school kids
- LWW course – Nurses (Additional)
- Usability Testing by Heuristic Evaluation Method
- Making a report while finding problems (Documentation)
- Presenting the ideas to the teams

Approach

- Documentation of problems in a form of report for the different courses.
- There were OB – Observations, BR- Breakdowns and DI- Design Ideas suggested for the same.
- Categorizing Problems

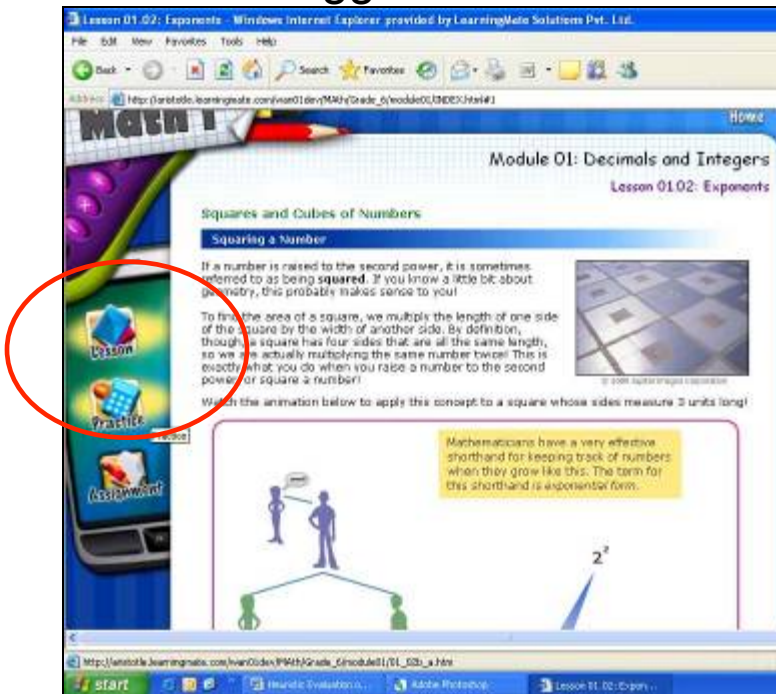


Observations

- Findings from FLVS course
- Design Issue :

Lesson, Practice and Assignment doesn't appear like Menu items or clickable icons.

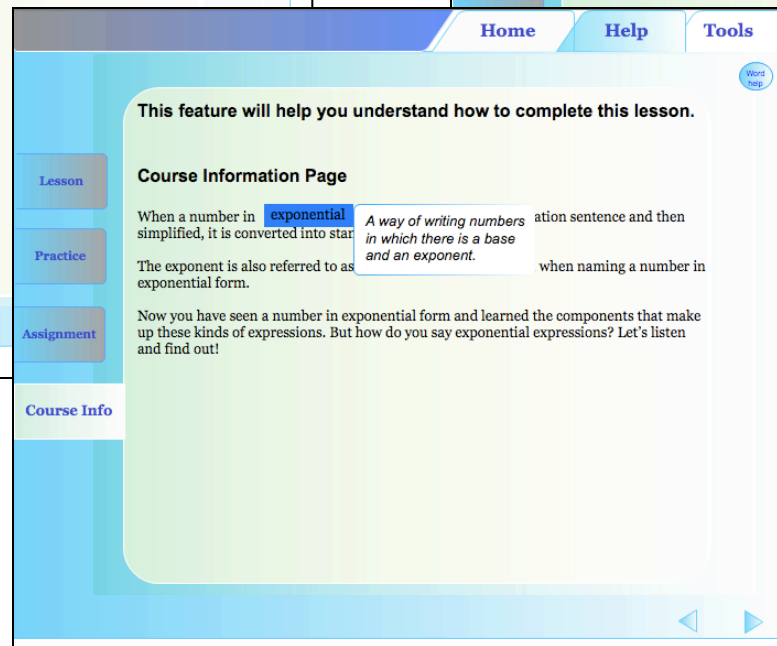
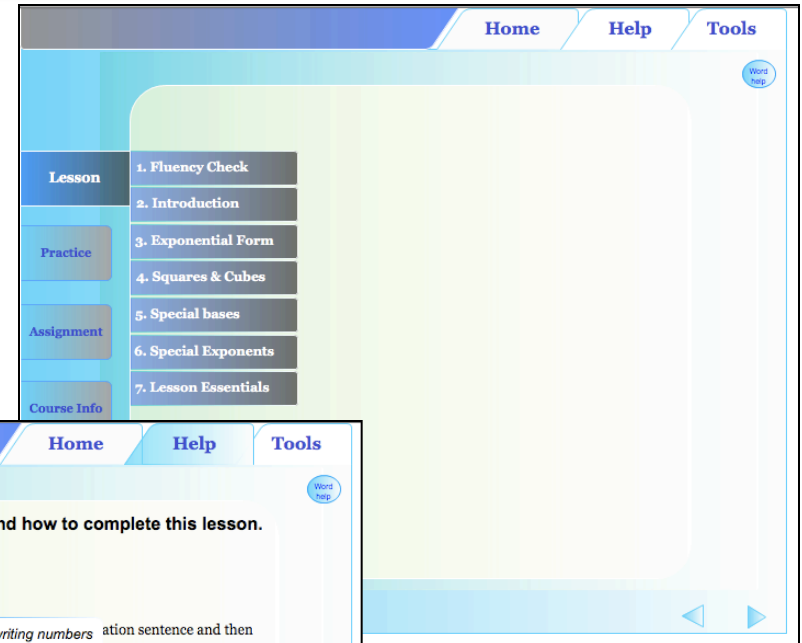
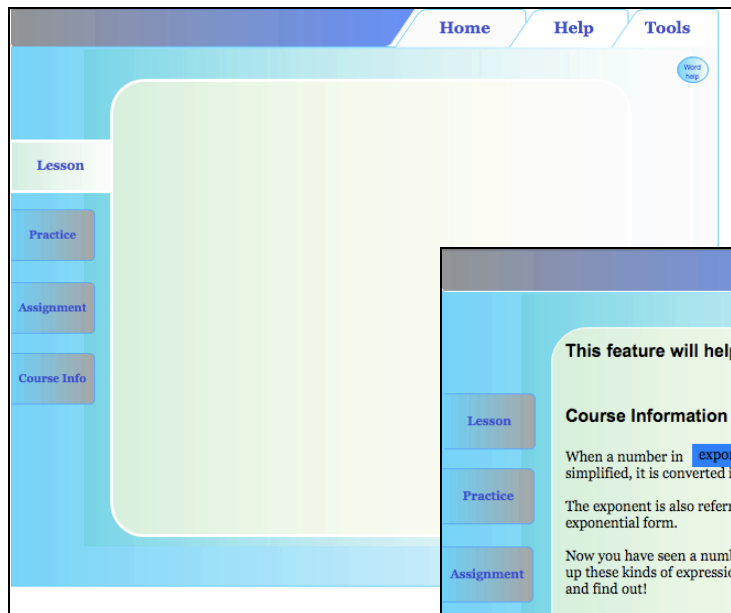
Doesn't suggest where the user is at every state.



DI: The menu design of the course can be made easy and simple to navigate.

Observations

- Prototype of New Design



Observations

- Navigation Issue :

Task 5 of 5:

On review conclusion if the kid presses 'back' button to conclusion page and then 'Next' to complete the activity, the kid again lands on the Activity 1 Of 5. This would be confusing for the kid.

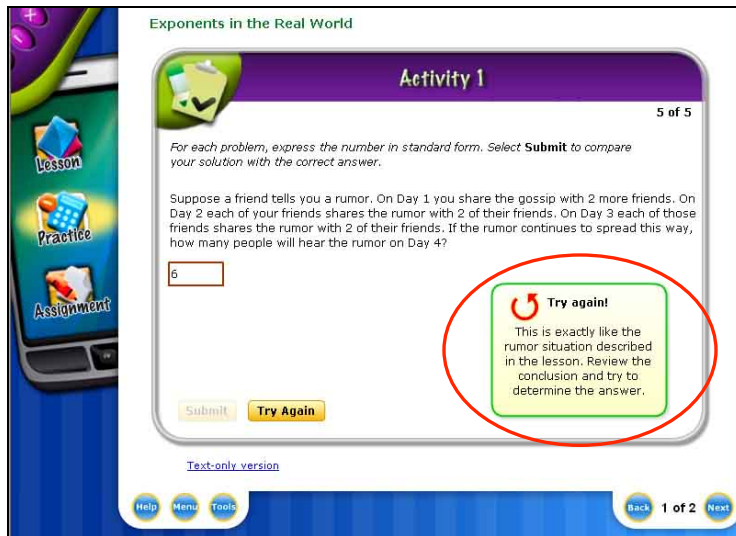


Figure Review suggestion → Click



and

Observations

- Navigation Issue :

go through / study the conclusions page

the kid clicks next button

assuming he/she would reach activity 5 of 5
but he reaches the activity 1 of 5 page .



Math 1

Module 01: Decimals and Integers
Lesson 01.02: Exponents

Lesson Essentials

Conclusion: How Many People Heard It?

Now that you know about exponents, test what you've learned by looking back at the rumor problem from the beginning of this lesson.

Suppose your friend starts a rumor by telling you some juicy gossip Sunday night. On Monday, one of you shares the gossip with 2 more friends. On Tuesday, they each share the rumor with 2 of their friends. Then on Wednesday, those people each share the rumor with 2 of their friends. If the rumor continues to spread this way, how many people will hear the rumor on Friday?

Let's put what we know into a table to help us determine how many people will hear about the rumor on Friday. View the table below to see the table being made.

Day	Who told whom?	How many people heard the rumor today?	What exponential expression represents this?

→ then

Module 01: Decimals and Integers
Lesson 01.02: Exponents

Exponents in the Real World

Activity 1

1 of 5

For each problem, express the number in standard form. Select **Submit** to compare your solution with the correct answer.

The population of China is greater than 10^9 people. Express 10^9 in standard form.

Submit **Try Again** **Next Question**

[Text-only version](#)

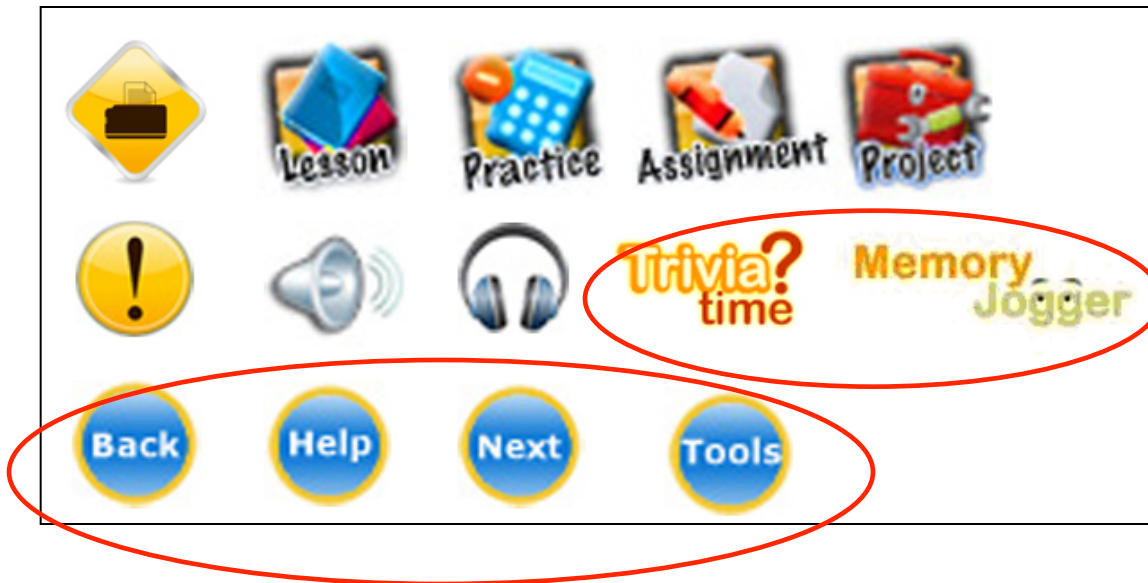
DI: 'Conclusion' can be directly linked to the page where the kid last (left) or was in an assignment task.

Observations

- Information Design Issue :

Buttons and tabs:

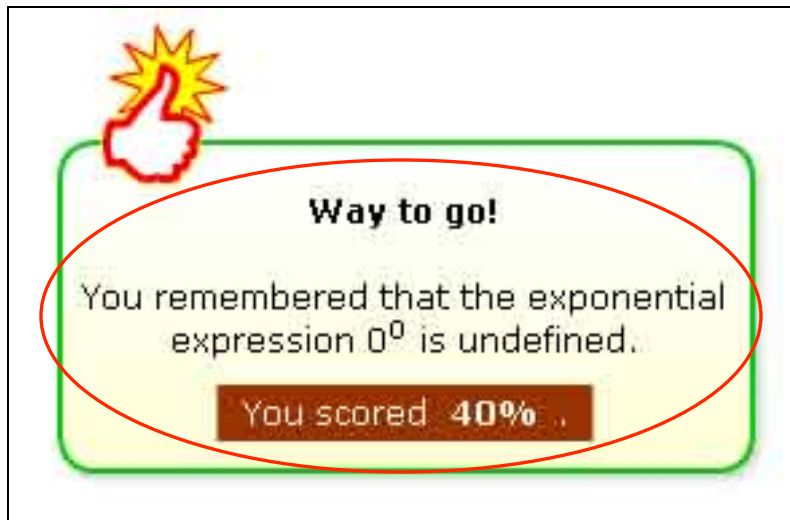
All the buttons and tabs ie 'icons' can have similar feature (appearance) which can enhance the look and feel and can bring in similarity in the whole learning module. They have different groups but need to have something in common to generate likeness.



Observations

- Placement Issue :

At the end of each task, the answer of last task and the scoring of the module appears in the same window.

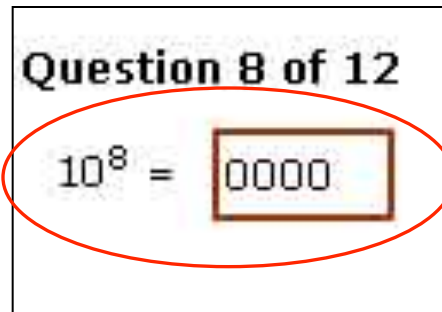


DI: The 'score' can be separately designed and aligned with the activity task boarder .For example a gift icon can appear, which when clicked ,discloses the total scores. This would highlight the overall effect of scoring.

Observations

- Feedback Issue :

Once the kid starts typing, the number goes behind (out of) the text field, which would confuse the kid.



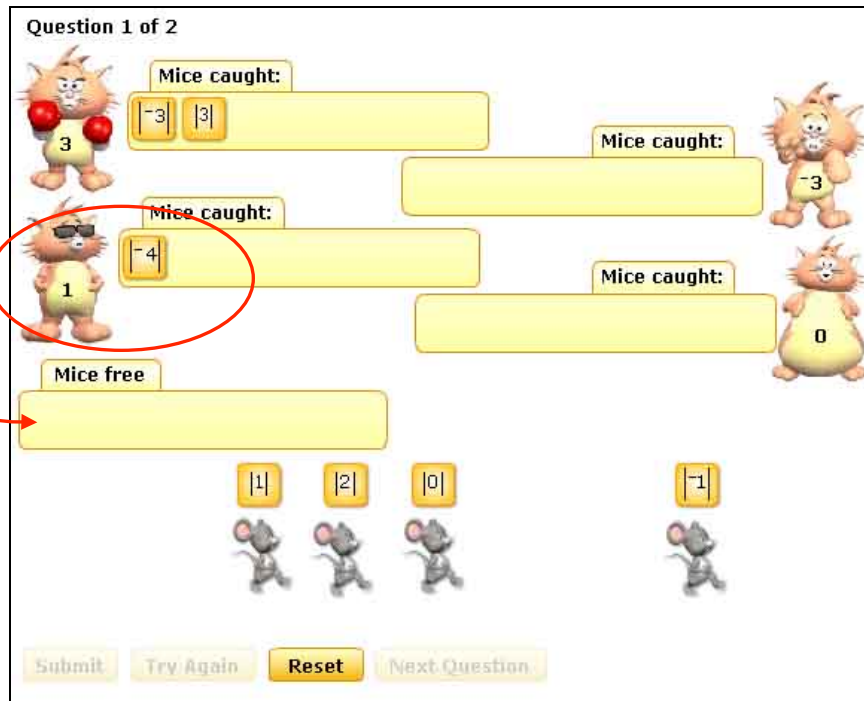
DI: The text fields can be made flexible to fit the appropriate size of the number, and giving the preview of the whole number.

$$10^8 = \boxed{10,0000000}$$

Observations

- Interaction Issue :

Flexibility to change the position, before hitting the submit button.



The number cannot be dragged once its placed in the caught boxes. The kids can feel that, the placement has by mistake got wrong, but it cannot be rectified, even after knowing it.

Observations

- Findings from UCCP course

- Design Issues

In the Get ready section, there are quick simple tasks given, but the answers are already revealed in the section given besides it, (below the highlighted yellow area) so it doesn't solve the purpose of asking questions.

Algebra II Graphing Linear Systems in Three Variables

Get Ready

Enter your equation for the plane and click **Submit**.

=

SUBMIT

Objectives

Get Ready

Equation of the yz -plane is $y = 0$ because the value of y in that plane is always zero.

Look at the plane shown on screen now. What is the equation of this plane?

Enter your equation and click **Submit**.

The equation of the yz -plane is $x = 0$.

The xy -plane, the yz -plane, and the xz -plane intersect in a single point. What are

Learn

Show Me

Try It

Wrap Up

DI: The text would appear with the audio.

Observations

Navigation Issues

Forward and Backward button works in between one part of the section and doesn't help to navigate from one part to another, for example one cannot go forward from 'Try it' to 'Wrap up' with the help of forward button on screen. Thus it can mislead the users.

It can be used to navigate within a section only like, 'Show me'



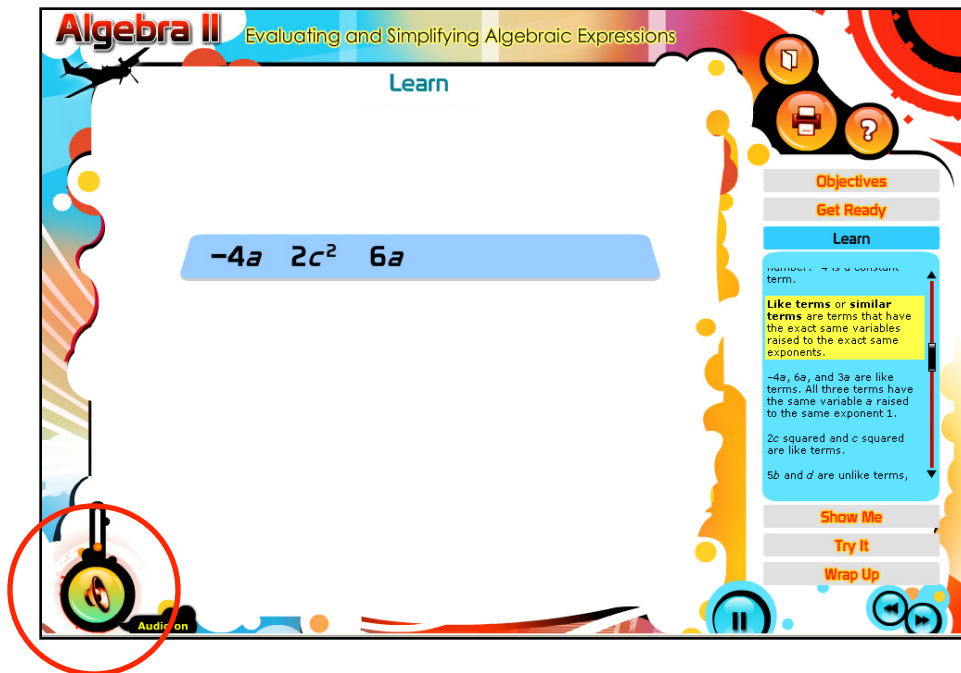
DI: It can appear with a specific part of the section, where ever it is applicable, because rest of the times it becomes inactive.

Observations

Information design Issues

The mute icon can go to “Audio off state” as soon as the volume has been turned completely low.

BR: The icon doesn't give a feel or info, that when it is clicked it can be muted.



Observations

Placement Issues

The background can look cluttered when there is too much text as for example in the given image – ‘show me’ doesn’t have enough white space suggesting a difference in the background and the content.

Algebra II Evaluating and Simplifying Algebraic Expressions

Show Me

Simplify and evaluate: $x^2 + 2x + y + 3x^2 - 3x$ for $x = -2$ and $y = \frac{1}{2}$.

Step 1 $x^2 + 2x + y + 3x^2 - 3x =$ Use the Commutative and Associative Properties of Addition to collect the similar terms.
 $x^2 + 3x^2 + 2x - 3x + y$

Step 2 $4x^2 - x + y$ Add like terms.

Step 3 $4(-2)^2 - (-2) + \frac{1}{2}$ Substitute $x = -2$ and $y = \frac{1}{2}$.

Step 4 $4(4) + 2 + \frac{1}{2}$ Simplify.

Step 5 $16 + 2 + \frac{1}{2}$ Simplify.

Step 6 $18 \frac{1}{2}$ Add.

Objectives
Get Ready
Learn
Show Me
Try It
Wrap Up

Finally, we add all the terms. The value of the expression is 18 and one-half.

Next, you will have an opportunity to simplify and evaluate some expressions on your own.

Proceed to the 'Try It' screen.

DI: Suggestion of the menu and selected content area by the same color, or the background layer could have lighter colors.

Observations

Feedback Issues

The title in the window reads “Not yet” and the correct answer is displayed in the space provided, and also in the window. The kid may get confused with it. Rather it could be more direct.

The screenshot shows a math problem interface. At the top, a light green box contains a system of three linear equations:

$$\begin{aligned}x + y + z &= 21 \quad [1] \\ x + 3y + 6z &= 77 \quad [2] \\ x + y - z &= 1 \quad [3]\end{aligned}$$

Below the equations, the text "Ordered triple = [" is followed by three yellow input boxes containing the numbers 8, 3, and 10, which are enclosed in a red oval. The input boxes are separated by commas and followed by a closing parenthesis. Below this, a blue banner with a cloud-like border contains the text "Not yet." in red, which is also circled in red. Underneath the banner, the text reads: "The two teams scored 8 extra points, 3 field goals, and 10 touch downs. You may now proceed to the 'Wrap Up' screen."

Observations

Usability Issues

Once the circle, dot is dragged and placed on the number line, and one feels it is wrongly placed by mistake, the place cannot be shifted.

The screenshot shows an interactive learning interface titled "Algebra II Solving Compound Inequalities". The main task is to "Graph the inequality. $a < 10$ ". Below this, a number line from 0 to 100 is shown with a red circle at 50. To the right of the number line, there are four circular buttons with arrows: a left arrow, a right arrow, a double left arrow, and a double right arrow. Below the number line, there is a "Try again" section with text: "Remember to place a closed circle at the correct point when you graph an inequality with 'less than or equal to' or 'greater than or equal to.' Also, we shade to the right when the inequality includes the words 'greater than' and we shade to the left when the inequality includes the words 'less than.'". On the right side of the interface, there is a sidebar with buttons: "Objectives", "Get Ready", "Learn", "Show Me", "Try It", and "Wrap Up". The "Learn" button is highlighted. Below the "Learn" button, there is text: "compound inequality involving 'or'. Let's graph the inequalities on a number line." and "Graph the inequality a is less than 10. First choose the correct circle. Then drag it and place it on the number line. Similarly, choose the correct arrow and place it on the number line. When you finish, click Continue to proceed." and "Now, on the same graph, let's graph the inequality a ". At the bottom right, there are navigation buttons: a pause button and a play button.

DI: Flexibility of changing / shifting the place of the line and circle, till one hits the submit button.

Recommendations

- Scope of using Interaction design process in the current/ ongoing projects
- Suggestions for trying out Paper Prototypes at the very basic level, for Usability testing
- Conducting Heuristic evaluation after the first prototype is ready
- Evaluating the design as a third person, or taking the role of a 'User' and checking the interaction
- Arranging different sessions like brainstorming then affinity building to get design ideas etc.
- Getting user' s involved for the usability testing, it would enhance the design process

Experiences

- CHALLENGES
- Doing User study, without being in the context of user' s
- Creating awareness about Usability Testing and it' s benefits
- Going through the complete module for several times for various courses

Experiences

- LEARNINGS
- Had fun with learning experience.
- Introduction to E-learning and how the courses are designed and implemented with regards to the target audiences.
- Understood how the projects are handled on corporate level.
- The execution of any project the process that goes behind from the beginning to the end.
- Interactions with various teams due to an opportunity of presentations. Responses with good encouragement to do the work.

Experiences

- TAKEAWAYS
- Knowledge about the E- Learning courses
- Research on K12 and US Education system in detail
- A good practice of doing Usability test

Thank You!!