

USABILITY FINDINGS REPORT W/ SURVEY DATA

ENGL-2311-D01 | GROUP 2

MAY 4, 2022

TO: Professor Michael Brooks

FROM: ENGL-2311-D01, Group 2

DATE: May 4, 2022

SUBJECT: USABILITY FINDINGS REPORT W/ SURVEY DATA

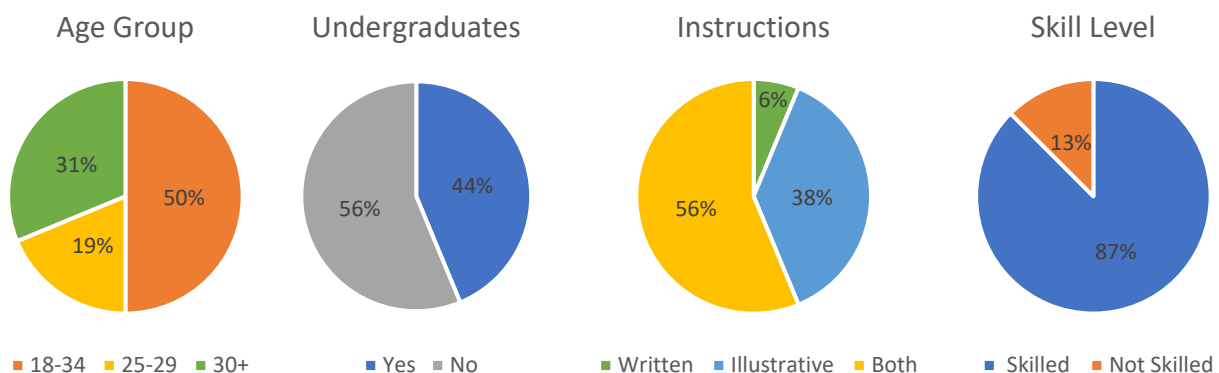
Purpose

The purpose of the usability findings study was to test the effectiveness of the LEGO Drip Irrigation System instruction set. How well could the traditional undergraduate follow our instructions, would they give positive feedback or constructive feedback on what was good and areas of opportunity? The participants were handed a paper copy of the instructions and were asked to construct a drip irrigation system from the LEGO set that was provided to them by a group member. We each have chosen four different participants to construct the drip irrigation system from the LEGO set.

Pre-Test Questionnaire

The pre-test questionnaire consisted of seven questions that created an understanding of each participant. The likelihood of completing the instruction set, and their comfortability with instructions was gauged in the pre-test questionnaire. It was beneficial to find areas of improvement with the instruction set by understanding the participant. The following questions were assessed:

- The participant's age.
- If the participant was an undergraduate student.
- What was participant's skill level was putting following instructions?
- If the participant preferred written instructions, illustrated instructions or both.
- What did the participant like MOST and LEAST about a list of instructions?



The results from the pre-test questionnaire showed that the participants were a mix of undergrad students and non-undergrad and that most of them considered themselves very skilled at using instructions. An interesting result from the questionnaire was that none of the participants said that they preferred only written instructions, they all stated they preferred either illustrative only or both written and illustrative.

Observation Notes

Based on the observation notes from each participant we found that while the completion times varied, from 2:15 to 10:16, every participant was able to successfully complete the instruction set. We also found that only a couple of participants were distracted during the process while most remained focused until they completed the instructions. While observing each of the participants work through the instructions, particular attention was placed on observing any pain points that the participants experienced. Few pain points were found, but one that was observed for several participants was trying to determine what the small red pieces were and where to find them. Another pain point observed in some of the participants was having to sort through all the pieces to find the ones they needed to complete the instructions.

Post-Test Questionnaire

After completing the instruction set, each participant was asked several questions as part of a post-test questionnaire. The purpose of the post-test questionnaire was to determine each participant's thoughts about the instructions, what they liked most about the instructions, what they liked least, and whether they would recommend the instruction set to a friend and why. This information was then used to find potential areas that the instructions could be improved upon.

The results from the post-test questionnaire showed that most of the participants had a positive view of the instructions with many saying that the pictures were excellent and that the instructions overall were easy to follow. When asked what they liked most about the instructions, many stated they liked how colorful the instructions were, while several others liked how simple and easy to read the instructions were. Other things the participants liked about the instructions were having each step on a different page, having a required parts list, and that the instructions allowed them to finish the process.

When asked what they disliked about the instructions, several participants stated that there was nothing they disliked about the instructions, while others stated they didn't like that there was no video option in the instructions, the red pieces were hard to find, and that they didn't like the written instructions in each step. The final question asked to the participants was whether they would recommend this instruction set to a friend and nearly all the participants stated that they would recommend the instructions to a friend. When asked why, many stated it was because the instructions were easy to read/understand, the helpfulness of the instructions, and the inclusion of part numbers to help colorblind people. For the participants who said they would not recommend the instruction set to a friend it was because they said the instructions weren't too scale.

Conclusion

Overall, the results from testing the instructions were very positive as many of the participants found the instructions to be effective and easy to follow. After analyzing the results from the participants and our own observations throughout the process, we decided to keep many features of the instructions the same. However, we did find some areas where we could make improvements, including improving the scaling of the pictures to make them more realistic, adding more yellow into the instructions to follow the traditional LEGO theme, and including an introduction and conclusion to the instructions so that future readers have more knowledge about the irrigation system when they go to use the instructions.

Appendix A: Pre-test Questionnaire

Name:

Age:

1. Are you currently an undergrad student?
2. Do you consider yourself not skilled or very skilled at using instructions to build something?
3. When receiving instructions, do you prefer written, illustrative, or both?
4. What do you like MOST about a list of instructions?
5. What do you like the LEAST about a list of instructions?

Name	Age	Q1	Q2	Q3	Q4	Q5
Rachel Mckenna	33	No	Very skilled	Both	Specificity, want it to be more specific	Vague; lack of detail
Ryan Mckenna	42	No	Very skilled	Illustrative	Index pieces colors not showing final project so can relate where other pieces go	no picture, written instructions are appropriate
Kylie Benge	26	No	No skill	Both	When they are not too wordy	No illustration
Brady Benge	27	No	Very skilled	Illustrative	Pictures	The vagueness
Tyler	22	Yes	Very skilled at using instructions	Prefer both	They give you a step-by-step process on how to build something	Instructions are vague
Sarah	22	Yes	Very skilled	Prefer both	The fact that I can see/visualize what I am going to be building	If the wording of the instructions is too long
Jacob	21	Yes	Very skilled	Both	How comprehensive they are	Whenever they are too complex or have too many steps
Zach	22	Yes	Very skilled	Both	It tells me how to build something	How long they can be
Jamaal	18	No- high school	Very skilled	Both	I like them to make sense	I don't like them to be too wordy
Charles	30	No	Very skilled	Illustrative	They have steps	Too much detail for simple steps
Adam	48	No	Very skilled	Both	I like them to come in multiple languages	When they don't provide a way to get help
Abraham	54	No	Very skilled	Illustrative	Photos showing all the steps	When I can't see all the angles for the process
Cooper Lefebvre	19	Yes	Averagely skilled	Pictures	Clear and easy-to-see pictures	If there are no pictures to rely on
Gianni Millan	25	No	Not very skilled	I prefer using written to put together and pictures after	Clear sentences and pictures	A bunch of words that aren't necessary
Bryce Robinson	21	Yes	Very skilled	Both	How easy the instructions are to follow	When there are too many complicated steps
Milca Galindez	21	Yes	Moderately skilled	Illustrative	Pictures	Words

Appendix B: Post-Test Questionnaire

Name:

Age:

1. What was your overall impression of these instructions?
2. What do you like MOST about these instructions?
3. What do you like LEAST about these instructions?
4. Do you have suggestions on how these instructions could be IMPROVED?
5. How would you compare these instructions to other instructions you've seen?
6. Would you recommend these instructions to a friend? Why or why not?

Name	Age	Q1	Q2	Q3	Q4	Q5	Q6
Rachel Mckenna	33	Really great pictures	Colorful pictures were very helpful	Sentences prefer the visual pictures	Thought they were	Better short and concise and easy to follow	Yes
Ryan Mckenna	44	Easy to read; simple to follow	They were easy to follow: they were color-coordinated and had multiple views	Nothing they were good instructions	No	Similar	Yes; they were easy to follow
Kylie Bengé	26	Very straight forward and simple	Appreciated that its label, require label sheet, each slide is broken into steps	No video option	No	More user friendly	Yes; numbers are good so that the color blind can still put them together
Brody Bengé	27	Poor	Illustration	The colors are hard to see	Architectural drawings scaled drawings the color pieces are hard to see	Sub-par	No; hard to read not to scale
Tyler	22	Other than the picture of the red figure, the instructions were excellent	They are colorful and show each step	The images of the red pieces being hard to visualize	Improve the images of the red pieces	Very good compared to most other instructions	Yes; they are colorful and very easy to build the figure
Sarah	22	They were good, helpful having both written and visual instructions	That they were in color	Nothing	No improvements needed	They were easy to understand, they had clear pictures compared to other instructions	Yes; because they are easy to understand and they were helpful
Jacob	21	Straightforward; easy to understand	The colored pictures were the best part	Nothing	Nothing	Simpler than most; pictures were clear, and the written description is more specific than others	Yes; they are simple and easy to follow
Zach	22	Very simple and easy to read	The pictures in color	Nothing	Nothing	Above average	Yes; easy to read and conveys information in a clear manner
Jamaal	18	They were easy to use	They were clear	They were in black and white	Colored pages	Without color they were the same; the print	Yes; hard to read not to scale

						was big enough for me to read	
Charles	30	They were simple to use	Provided all the steps	They were not in color	No	Pages are in color so I know which pieces to use	No; need a color copy
Adam	48	They were effective	I was able to follow the steps to finish the process	The pages were not in color	Color pages	They are about the same	Yes; they are easy to understand
Abraham	54	Easy to complete and easy to read	Each page has a separate step	No issues	No	Steps on a page at a time; most instructions have small print to fit one page	Yes; easy to use
Bryce Robinson	21	They were easy to understand and read	The way they were designed	Trying to find the pieces were a struggle	Maybe have all the pieces already available	They were simpler than most instructions	Yes; it was fun and easy construction
Gianni Millan	25	Easy to understand and made it easy to build	The short sentences that get to the point	No comment	I think the instructions are good the way they are	This one was somewhat better than others	Yes; because it was easy even for a beginner
Cooper LeFebre	19	They were fun and the pictures looked great	Pictures	I didn't need words at all on the instructions	No improvements needed	They were simpler	Yes; it was fun and easy
Milca	21	They were easy	Pictures	Words; I did not need the words at all	No suggestions	There isn't much of a difference personally	Yes; they were easy to follow and the pictures were clear

Appendix C: Observation Notes

Name:

Age:

1. Total time to complete instructions?
2. Did the participant complete the instructions?
3. Did you observe any pain points during your time with the participants?
4. At any time, did the participant attempt to ask questions? Did you respond?
5. Was the participant distracted during the process?

Name	Age	Q1	Q2	Q3	Q4	Q5
Rachel	33	4:51	Yes	None	No	No
Ryan	44	10:16	Yes	None	He asked if the timer was start; I responded yes	No
Kylie	26	3:37	Yes	Baggies;pictures	No	Husband messed with her
Brody	27	8:37	Yes	Finding proper color pieces	Yes; red tops for plants;told him to look for proper tops	No
Tyler	22	4:40	Yes	Trying to determine what the red pieces were	Yes asked about red pieces; no reply from me	No
Sarah	22	2:55	Yes	None	No	No
Jacob	21	2:50	Yes	Trying to find red pieces at first	No	No
Zach	22	2:34	Yes	None	No	No
Jamaal	18	3:28	Yes	None	No	No
Charles	30	2:15	Yes	None	No	No
Adam	48	4:28	Yes	No	No	Yes; attempting to watch TV during process
Abraham	54	3:00	Yes	Didn't like that there were no extra pieces provided for the instruction set	No	No
Milca	21	5:59	Yes	Began getting irritated during parts search	No	Preceptor began messing with the pieces
Cooper	19	4:49	Yes	No; viewed it as a competition	No	No
Gianni	25	7:21	Yes	No	No	Tended to have conversations but never stopped building
Bryce	21	6:55	Yes	Struggling to find all pieces	Asked question internally none addressed toward me	No