

Date: May 1, 2022

To: Dr. Philip Gallagher; peers in TCO 499

From: Juliana Hawkinson

Re: Users' Expectations for Game Instructions & How the Design Impacts Their Experience

## **Introduction**

This section outlines the Think-Aloud Protocol study, a background about gaming instructions, the importance of the research and why I am studying this topic right now, and the importance of my research for the Think-Aloud Protocol method.

Instructions introduce the reader to the context of the game, including setup and interaction, and the goals and purpose of the game. These parts of instructions should include visuals that improve the user's knowledge of the game and provide clarity. The instructions should invite the reader to participate and guide them through the activities. The tone should be casual and welcome the users and consider their age-appropriate reading level.

This study looked at how college students interact with game instructions and how the document design, text design, image design, wording, and spacing between figures and sections affected the user experience. The purpose of the study was to find out, through the Think-Aloud Protocol, what users, specifically college students, expect when they see game instructions. Based on external research, users expect image proximity when the image relates to a certain step in the procedural instructions, steps with increased engagement when the text and its images are close together, the need for accurate pictures to illustrate textual instructions when writing about positionality and piece description, and finally clear action verbs that guide the user when interacting with game instructions (Agrawala, Hanrahan, Haymaker, et. al, 2003; McGee, 1979, p. 893, Pillay, 1997; Schumacher, 2007, p. 102; Daniel & Tversky, 2012).

### Importance Behind the Think-Aloud Protocol Research

This research is important because we daily interact with instructions. Good instructions, based on previous research (see previous paragraph) focus on the user's experience and meets their expectations. Usability research gives us the opportunity, through the think-aloud protocol, to learn what users expect to see in instructions and implement those ideas in the overall design. Even though there are various articles of research on designing instructions, my research uses the Think-Aloud Protocol and multiclass remote studies to show firsthand what students in Technical and Professional Communication (TPC) courses expect to see in Pictorial Activity Instructions (PAI's). The gaps in our knowledge involve three factors that influence the user experience when students interact with PAI's in a classroom setting: environmental factors, document design instruction, and genre-based learning

Specifically, my study focuses on how students' past experiences with images, text, and overall document design, and the knowledge they learned in TPC courses affect their current experience of the game instruction's design.

The environment involves the classroom setting. The classroom setting is two-fold: the first part is through Dr. Gallagher's lectures on designing game instructions and the peer-review activity, and the second part is them meeting in the usability lab, playing the game, and providing feedback to the other players. Furthermore, it gives researchers an idea of topics to study when people discuss game layout, structure, blank space, and how the organizational hierarchy all affect the user's experience when they interact with instructions. The study does not include information about computer games or video gaming instructions. Also, this study focuses specifically on board-game or related instructions. It does not look at employee training or teaching materials for K through 12 students.

Through the students in the TCO 141 class, this study gives you an insight into general users' experience of instructions. We learn their point of view that reflects what general users expect to see in a good instruction set: aesthetics, navigation, text, clarity, consistency, and organization. Furthermore, their suggestions look at this question, "How do students experience game instructions in the classroom setting?".

This study gives researchers an idea behind the features users expect when they interact with game instructions. In this report, I will talk about the secondary research methods that support my research and findings. Following, I will talk about the primary research methods and the results of those methods. Then, I will answer the research questions and discuss the importance behind my findings. Finally, I will discuss further topics that were outside the scope of this study.

## Literature Reviews

Instructions should include goals that players should accomplish during the game and focus on the user experience. Kapp (2013) discussed ten best practices on instructional game design. Even though this article discusses e-learning methods and designing lessons for the classroom versus game instructions, these best practices reflect what users experienced through the Think Aloud Activity during the peer review of the Instructions: Game Design Project. Disclaimer: Item number 7 from the article focuses on applying the skills to the job and learning transfer. Job skills and learning transfer are not relevant to game instructions, so I did not include this practice in the selection.

### Best Practices in Designing Games

1. Create objectives for the game before you design the game
2. Give an overview of what the players will learn or experience. At the end of the instructions, explain to them what users should have experienced through a positive message

3. Games should have simple rules, scores, and levels
4. Provide tutorials and game aids for complicated games
5. Do not word the instructions to make it sound like winning is the most important thing. Give users a positive experience
6. Design the instructions so that they incorporate group activity
7. Design the instructions so the players can re-play the game through different “strategies” or “approaches” (quotes are from the article)
8. Let players interact with the game
9. Create metrics before you write the instructions
10. Players should win because they learn and understand the game

Participants suggested changes related to most of the advice listed above. Also, the context of the Think-Aloud Activity aligned with the advice suggested by Kapp above (Kapp, 2013) (see Appendix for the Think-Aloud Activity). I will now discuss these ten practices in detail and relate it back to the common themes I found through coding the transcripts. First, participants in the Speak-Aloud Activity pointed out that game writers should write some objectives and place these objectives in the introduction section of the PAIs. That way, participants know the goals of the game and the purpose of the pieces and activities before they play the game. Objectives give game players an overview to see if they want to play the game. If the game does not have objectives, they lose the reason for playing the game.

Next, users want hints and keys in the instructions so that when they have questions during the game, they can flip over to the Hints section and find a quick solution to their problem. These quick hints and keys prevent users from becoming distracted and frustrated because they are confused, thus hindering the user experience. Instructions should focus on a positive user experience. One team wrote their instructions in a way that made the player felt like they were not smart enough to play the game. This feeling of not being smart enough for a game diminishes their confidence and interferes with a positive user experience. Another team liked how they could use the game pieces

Greene and Palmer (2012) discuss various best practices for video game and general game manuals. Although Greene and Palmer’s context are video game instructions, three concepts reflect user’s comments and expectations from the speak-aloud protocol activity. First, users expect illustrations and background of the game, whether or not they played the game before (Greene & Palmer, 2012). Next, users want to see hints and other aids to help them navigate through the game (Greene & Palmer, 2012). Finally, they expect warnings if certain actions and steps in the game are a hazard for people if they are not careful (Greene & Palmer, 2012 paras. 17-19). Participants wanted illustrations in the game to understand the setup where there was only text. The illustrations would give them a good visual and guide them when the words do not provide enough information. The background of the game would give users context and the importance behind game pieces and rules. This would improve their understanding and the user experience. Aids would give players clarity and a quick reference when they have a simple question. Game aids improve the user experience by providing quick answers and preventing the players from being confused with a section of the instructions.

When users see warnings and pictures, it gives them a clear idea of how to interact with instructions. Pictures help users understand the steps and reduce the amount of cognitive load. A similar study by Li and D.T. de Jong (2021) focused on five categories of pictures from Li et al. (in press, as cited in Li and D.T. de Jong, 2021). These five categories of pictures reflected five different theories about designing user instructions. To expand on this research, Li and D.T. de Jong (2021) looked at what Chinese versus Western readers prefer to when it comes to pictures in instruction manuals. In this experiment, they focused on five categories of instructional designs. Li & de Jong et. al. (2021) chose three pictures based on the categories defined below and supported by the research from Li et al. (in press). The five categories are the following:

- Cartoons
- Cartoons with detailed human depiction
- Cartoons with personification
- Technical line drawings
- Detail blowups (Li et al., in press, pg. 144).

Each picture included written instructions. Western readers and Chinese readers read these instructions and the pictures together. Afterwards, they answered a four-question quiz about the instructions they just read (Li et al., in press, 146). The results from this study discuss that Westerners like pictures that depict actions (Li et al, in press, 148). The results suggest that Chinese users liked cartoons in their instructions (Li et al, in press, 151). This research shows that users, specifically, American users, expect illustrations in their instructions, specifically, people in the illustration doing an action. I suggest that this gives them a relatable example because it shows what people should do with the object described in the instructions. The Speak-Aloud Protocol reflected this same pattern. Users expected illustrations to show them what to do with specific game pieces and the relationship between the game pieces and how they align with the game.

Users expect illustrations to relate to the steps and not include any irrelevant pictures or drawings. These irrelevant drawings distract them and increases cognitive load. Pillay (1997) conducted a similar study to assess the types and amounts of information on instructions and how those layouts affect users' cognitive loads. For the theme of cognitive load, Pillay (1997) looked at a theme called split information and redundant information, discovered by Sweller and Chandler (1994). This theme looks at how the more information that is in instructions hinders readers. The patterns found in these articles: relevant illustrations corresponding to written text and showing a specific action were reflected in my research.

#### Research Questions

Below are the research questions that the data will answer:

1. What are the benefits of visuals in instructions?
2. How does consistency in the design, text, headings, and visuals impact the understanding of the instructions?
3. How does the environment play a role in understanding instructions?
4. How do the design and context of the instruction's peer review activities influence the experience?

5. How do the design and context of the activities in the instruction set influence the experience?
6. How do past experiences, classroom environment, and the genre of instructions shaping a student's current experience with the instructions?

## Research Methods

### Theories Used

I collected this research using the Speak-Aloud Protocol.

### Sample Information

The participants were from the Technical Communications course in the School of Engineering at Mercer University. This project was the result of a Speak-Aloud Protocol Activity where two students gave peer-reviewing advice to the other team's instruction set. These students were participating in a class activity, so the selection process used videos already made from the Technical Communications course during the pandemic. Since Dr. Gallagher is my mentor and the professor for this class, the recordings are his and did not need permission to share these recordings with me.

### How the Data Was Collected

For this research, I transcribed ten Zoom videos. These Zoom videos were recordings of two students from the TCO 341 class peer reviewing another group's instruction set. The instruction set explained to the group how to play a game that the other team created. The game included an introduction, steps on how to play, and the materials. Two students formed a peer review team. They met in the usability lab. The students talked about their experience with the instruction set after they played the game. During this peer review, they talked about the things they liked and/or disliked, what confused them, general feedback, positive comments, and suggestions on the instructions' design, layout, font, headers, labeling, etc. The content in the instruction set included, but not limited to, game setup, game pieces, and how to play the game. These videos reflect common interactions between students but over Zoom, the new form of interaction since the pandemic. Even through this time of uncertainty, it opened up a new research perspective: remote think-aloud protocol and included a codebook

After I transcribed the ten Zoom videos, I placed them in an interview transcript template, a Word document including a key and line numbers. Next, I created a color-coded system and labeled various descriptive codes with different colored markers. These codes include topics such as advice, game setup, positive feedback, etc. Then, I created pseudo names for all of the participants to protect their identities. Next, I created the abbreviations for and defined the first level of descriptive codes. Following, I labeled each descriptive code with an analytical code and figured out the patterns of the student's expectations when they work with game instructions and reason behind those patterns. Then, I developed some research questions that the data would answer. I figured out analytical code for each set of data in the transcriptions. Finally, I used

external research to support the analytical codes (argumentation) and answered the research questions.

#### How the Data Was Analyzed

After I transcribed what the users said in Google Docs, I transferred them to the coding template. Then I printed out all ten transcripts and color coded them with markers. The color codes were the following:

- Yellow: comments about game setup
- Red: comments about UX activity confusion
- Gray: comments about blank space
- Pink: comments about when someone describes document physically (such as the packet or instructions)
- Blue: comments about visuals
- Green: when users offer advice (what can be improved) for another group's game instructions
- Orange: when users give positive feedback
- Purple: comments about users' expectations

Next, I went back and labeled the first and second level analytical codes. The first level code's categories were description, confusion, criticism, feedback, conversation, user experiences, and advice. The description of the seven categories are as follows:

- Description: participants offer explanatory description of the instructions without critical expression (comments were neither positive nor negative)
- Confusion: participants indicated they were confused or had trouble during the UX protocol (i.e. UX peer reviewing activity)
- Criticism: participants made critical remarks about the instructions without providing advice
- Feedback: participants offer positive comments that are holistic and do not offer advice
- Conversation: participants discuss their ideas with their review partner to shape response to the design
- User Experiences: participants talk about their needs and expectations as a user of instructions
- Advice: participants discuss areas in need of improvement and offer constructive advice to make improvements

The second level code had six categories:

- Positionality (POS): All descriptive work is orienting the USER to the Content in the the situation, (i.e. relationship building via reflection)
- Navigational issues (NAV): When participants lost direction (i.e. they didn't know what to do), confusion resulted in either inactivity, conversation, or criticism (with or without advice)

- Experience (EXP): participants talk about various visuals, design, and logistics of the document that affect how they experience the document.

Finally, I produced first level codes for each of the categories. The first level codes go into the details for the patterns seen in the transcripts (see Excel codebook attachment for details.).

#### How the Data Was Maintained

Each of the speak-aloud protocol recordings were password-protected. All of the transcribed videos were placed in a numbered template to accurately cite quotes from the users. The codebook includes copy-and-pasted qualitative data (the quotes from the template) and codes created from the transcriptions.

## Results

### Results from the Coding and Transcription

One of the patterns in the transcripts was confusion, either because of a lack of information or inconsistent headings. For example, Ray Gonzales and Marvel Hamilton have a conversation about what to do with the game's props, in this case a stuffed animal, and how it relates to the overall goal of the game.

Ray Gonzales: Ok, so you have to like, so if someone has the stuffed animal (he's confused)?

Marvel Hamilton: Ok, so I think the idea is like, there's a stuffed animal, and then there's a line or something?

[Both read instructions again silently.]

Marvel Hamilton: [Reading instructions.] There's like nine pacings.

Ray Gonzales: Ok, so this isn't thick enough (.

Marvel Hamilton: I, I, uh, (indistinct chatter). They didn't testify that the players should walk in opposite directions.

Ray Gonzales: Ok, so they're walking like [moves hands apart]

Marvel Hamilton: Yeah, so like one player walks nine tiles this one (points finger in middle of page and moves to the left). One player walks nine this way (points finger in middle of page and moves to the right). They did not say that.

Ray Gonzales: Ok, so like, from the dog (Grey: yeah) so like dog's in the middle. Each person (moves both fingers apart).

Marvel Hamilton: Yeah cause the game is (moves two fingers apart) like you try to hit it with stuff (motioning left finger towards middle of the section of the table.) so that it crosses this person's line (drawing an imaginary line in the middle of the section of the table).

Ray Gonzales: Oh, ok, so it's like-. (moves two fingers on the table)

Marvel Hamilton: It's like tug-of-war but (almost)- (Guy in grey explains the game to guy in white.)

Ray Gonzales: Yeah. Ok. I see.

Marvel Hamilton: Yeah. You try to keep the dog passing on. Divided by the rest of it.

Ray Gonzales: Yeah. Ok.

Marvel Hamilton: Yeah, that's the-your goal. (Transcript 6, lines 24-47)

Team 10 did not provide enough context behind the setup in this game. Transcript 4 introduced a new concept: specificity. Opal Ball mentioned that the instruction writers did not mention what to do with two cards in the game. The participants in Transcript 7 were confused with the instructions overall because there were no pictures. There were no pictures with how to setup cards or details on what to do with the cards throughout the instructions. Both teams in Transcripts 4, 6, and 7 do not include written details, or even better, visuals, when the game becomes more complicated. Game players need clear, upfront context early in the instructions to prevent frustration.

Four out of ten participants mentioned excessive blank space. Participants saw blank space either between different sections, paragraphs, and sections, or between visuals and written sections. The main concern was the inconsistent spacing between the paragraphs that brought a negative user experience.

## Discussion

### Importance behind the Transcription Results

Users expect thorough, clear, and specific instructions; however, they do not want to flip through a lot of pages to get to the main point. Geraldine Brock and Todd White commented that the instructions they peer-reviewed had a big, clear font that was easy to read and understand. The team they peer-reviewed wrote the necessary pieces needed and steps to make the paper airplane. However, the excess in blank space under the "Procedures" section distracted the users (Transcript 1, lines 23-26).

Also, moving sections up to decrease the amount of whitespace would help users understand the context. Some whitespace helps people mentally digest the material, but excessive whitespace confuses or distracts them. For example, Peggy Gordan commented on the small amount of text on a whole sheet of paper. She suggested to include more sections on the one page to reduce the amount of white space. (Transcript 2, lines 39-41).

Users from four different transcripts mentioned that instructions should have clear labels and warnings. Several users in those transcripts mentioned this comment two to three times.

Peggy Gordan: Yeah, cause then in the...playing instructions, it says, "Red cup, draw red card, and that has the challenges on it and...when you label those in the "assembly", it doesn't specify which color you write a challenge and points on [inaudible content], it just says, "Write down on either color." (Melinda Ryan: Yeah) and write the other option on the other color, So if you want those to specifically to have

Simultaneously while green shirt is saying: "Red cup be right"

Peggy Gordan: "and then blue for points", it should say that when you're setting it up"



Melinda Ryan: yeah, so then in brackets you can be like, “Red cups, these can what cups are for.

(Transcript 2, lines 105-116).

Also, users expect pictures and labels to be grouped together and to place important information near the top of the instructions. The visuals need to spatially be closer to the step they represent.

Peggy Gordan: A couple things seemed out of order. Like when it says you need to [inaudible content] for 5-10 minutes, I feel like that should be higher in the instructions, so you can set the timer at the beginning of the game  
Instead of trying to follow the instructions while you’re playing the game And then you get there and you realize, “Oh I have to set a timer”.

(Transcript 2, lines 93-97).

Users expect visuals to accompany instructions, even if the instructions are clearly written:

Jay Allison agrees and adds: A lot of steps and they are specific to the steps. They did a good job with their steps. They were easy to follow, even without the pictures.

Opal Ball: but the pictures always help

[Jay Allison and Opal Ball agree that pictures would help the instructions.]

(Transcript 4, lines 22-25).

Along with clear visuals and text-picture placement, four groups like fonts that are easy to read (only 1 quote shown):

Jay Allison: I like the font. It’s easy to read, basic.

(Transcript 5, line 38).

Users expect pictures in instructions. This comment was mentioned in two different transcriptions. Not only does it aid in understanding and clarity, but it defines the experience in the document:

Guy Chambers: And the lack of pictures kind of makes it look boring.

(Transcript 4, line 33).

Not only do users expect pictures with instructions, but they also want the pictures to have labels and numbers with those labels:

Juanita Parsons: I would say in some of the places...I think this last graphic. That they could type it. If they'd (had) typed four ("4") instead of writing them on there. [Partner 8 agrees] It would look a little more sharp.

(Transcript 5, lines 64-66).

#### Literature that Agrees with Transcription Results

Writers of game instructions should chunk the necessary information-the background, steps, and visuals-together in the document. Furthermore, when writing instructions, users want to see related content on one page. According to Katherine Haramundanis (1992), writers should be concise when working on instructions. The fewer words, the better. Readers need a simple message containing most of the content up front. Haramundanis discusses a rule called the "one-page display": shorten the most valuable information down to one page (Haramundanis, 1992, p. 6). She says figures are an effective way to condense pages and show the essential information. Figures (such as pictures in instructions) allow users to scan and get the most information out of the content versus reading paragraphs of text (Haramundanis, 1992, p. 6). Writers use figures and text to discuss the topic, but if the readers do not understand the topic, then the instructions conflict with usability. Haramundanis (1992) discusses readability for technical documentations, in this context, instructions. Authors need to know their readers' level of knowledge and understanding about the topic, write in the readers' point of view, and use their language (Haramundanis, 1992, 5-6). When you know the reader's knowledge, write in the user's point of view, and use their language, then you consider your audience bring clarity to the users and improve their experience.

Readers want to know why they will perform a step. But even if you explain the context, grammar and spelling errors cause big problems in understanding and clarity. Grammar and spelling errors conflict with the professionalism of the document and distract readers from the document's purpose. When instructions distract the reader from the context, it gives them a negative user experience. Haramundanis specifies three types of grammar errors: spelling, punctuation, and grammar itself (1992, 7). Writers should look for and correct these errors in their instructions. Then, users will focus on the instruction's context and goals.

## Conclusion

#### Research Questions

Below are the research questions that the data will answer:

7. What are the benefits of visuals in instructions?
8. How does consistency in the design, text, headings, and visuals impact the understanding of the instructions?
9. How does the environment play a role in understanding instructions?
10. How do the design and context of the instruction's peer review activities influence the experience?
11. How do the design and context of the activities in the instruction set influence the experience?

12. How do past experiences, classroom environment, and the genre of instructions shaping a student's current experience with the instructions?

#### Answers to the Research Questions

1. Visuals provide two benefits to instructions:
  - a. Clarity for game setup and game play
  - b. Show layout of materials when there are multiple steps involved in one step
2. The consistency in the design, text, headings, and visuals prevents users from getting distracted. It gives them a "clean" design so they can focus on the purpose of the game.
3. The environment either supports or distracts the player from instructions. The amount of time they have in answering the questions, the lighting in the room, and where they are in the classroom all play a role when discussing instructions. The more time they have, the more in-depth analyses they can give to their classmates. However, the shorter amount of time prevents them from going into an in-depth analysis of their thoughts, feelings, and suggestions they have about the situation.
4. The design of the instruction's peer review activities gives users an outline of the topics they have to cover in the peer review activity. However, some students may feel that the activities can be restrictive because they answer the prompts but are uneasy in providing other ideas or situations into the context of peer reviewing their classmates. They feel that some of their suggestions are irrelevant to the questions being asked in the peer review and/or their classmate's project.
5. The design and context can either improve or hinder the experience. The activities, through the design and written questions guided students on what to look for in the instruction set. However, through the ten transcriptions, various users were confused about what the peer reviewed prompts were asking. They would talk about it for up to three minutes or 30 lines of transcribed text, trying to figure out the prompt itself. This distracts the users from giving feedback to their peers. The context helps them give feedback that align what they learned in class; however, students strictly stick to those questions versus making up their own. This could hinder students from giving extensive feedback.
6. Students pull from their past experiences and knowledge in the classroom to offer advice about instructions. This knowledge and experience give them expectations and a guide on what to look for in instructions.

#### Significance Behind the Answers to the Research Questions

This research gives a user's point of view of students in a classroom setting. It demonstrates, through the speak-aloud protocol, what is important to students in terms of game instructions. Students expect three things from game instructions:

1. Game instructions should help them complete the tasks quicker

2. Game instructions should help them understand the background, situation, and reason for completing the tasks
3. Game instructions should include textual clues-such as headers, numbers, and labels-to bring consistency, organization, and content through which they can skim. Also, pictures and textual labels with each picture clearly tell users what they should do, according to game creators.

#### How the Results of the Speak-Aloud Protocol Affects Future Research

One of the things that affected students when reading their peer's instructions was the excessive amount of text, but not enough background to help them understand how to play the game. Next, several instruction sets did not have clearly defined headers for each section. Users did not know the purpose of each section when there was not a clear section title. Following, users got confused when the instructions did not have a specific purpose behind a game piece. They did not understand why there was excessive spacing in between sections of text, header and text, and figure labels and body text. In future research, we should incorporate more pictures, use less text, introduce background information that clearly states the game's purpose, and organize the information through headers, numbered lists, and consistently styled font. These suggestions would improve the flow and navigation for the users.

#### Topics for Continued Research

Researchers should consider spacing and how the lack of spacing affects cognitive load. Also, they should investigate fonts and how sans serif versus serif affect cognition and understanding in instructions. Next, for future projects, researchers should investigate how to make clear setup instructions that are concise and guide the readers through tedious setup through pictures and sub steps.

Another topic for continued research is the general layout of instructions. One of my questions is, "Would an introductory section and figures that give the overall layout and goal of the instructions upfront improve user's understanding of the game?." In my analysis, one of the patterns I saw in the transcriptions was people's confusion for the reason behind some of the pieces. They did not see the importance of a piece or step because the instructions did not explain the purpose of the piece or step to them. Players saw the piece(s) as irrelevant, and the irrelevancy distracted them, thus negatively affecting their user experience.

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## Appendix

### Think-aloud Activity (Context)



### Think-aloud UX Activity

## The Game Design Project

### Introduction

Think-aloud research asks participants to share their experiences and feelings while working with an artifact or completing a task. During a think-aloud activity, participants talk out-loud sharing their thoughts, feelings, experiences, likes, and dislikes about the situation. Today, we are conducting a think-aloud activity while interacting with another group's Game Instructions.

### Purpose

The purpose of today's think-aloud activity is to provide the instructional designers with information about user experience with their document. It is important to collect user experience information to improve document design for better accessibility, usability, and readability. As designers, we will use the data from this activity to address user questions, problems, negative experiences, and confusion that occurs with our documents.

### Instructions

After entering the UX Lab and starting the recording, you will

1. Talk out loud sharing your first impressions about the instructions you've received. (e.g. What are they about?; How do they look?; Do you like/dislike the design?; Do they make you feel a certain way?)
2. While reading the instructions, talk out loud about the design elements. (e.g. What does the text look like?; Do you like/dislike the font?; How are images used?; Are the images clear?; Do the pictures complement the text?; Is space being used well?)
3. After reading the instructions, talk out loud and reflect on the instructions (e.g. Do you have any questions?; Did you experience any problems?; What made your experience positive or negative?; Was anything confusing?)

## More detail = Better results

Instructions: Game Design Project

### Instructions: Game Design Project

#### TASK

Using the principles of good instructions, you will design and make a simple game for 2+ players. You may choose the type of game you wish to design (e.g., kinesthetic, boardgame, card game, etc.). The game must be a new, original game. It cannot copy the intellectual property of others or your team will fail the assignment. Your goal is to create a set of clear, user-friendly instructions for both making and playing your game.

**NOTE:** *You are not graded on the cleverness of your game design or play method. You are graded on your document's effectiveness to communicate the instructions for making and playing the game, as well as your contributions to the collaborative project.*

#### TEAMS

The instructions assignment requires you to work in teams of two or three. Your team will turn in one set of instructions for the project. At the end of the process, each team member will provide substantive feedback to me about their performance and those of their teammates during the project. I will consider the feedback of each team member during grading.

Prepare yourself to work successfully as a team by doing the following:

- Share your contact information.
- Write a meta-communication plan (or action plan).

If any team member fails to do a portion of the project, communicate effectively with teammates, or make acceptable arrangements with the other team members, that team member will be removed from the team project.

Removed team members will be required to complete the entire project either alone or with other removed members.

**NOTE:** *Each team member must participate in all design, writing, visualization, testing, presentation, and revision steps.*

#### INSTRUCTIONS



**Your instructions must contain the steps for (1) making the game pieces and (2) playing the game.**

(1) Making the game: produce instructions for players to use to make the pieces needed to play the game. Your game design may include paper, coins, dice, writing tools, and/or other readily available materials.

**NOTE:** *During the usability testing in class, you will have to provide another team with all the materials they need to both make and play your game along with a set of instructions. So, you must keep materials and equipment to a minimum.)*

(2) Playing the game: create the rules and procedures necessary to play the game. Make sure to include all the information for playing your game that your audience may need (e.g., the object of the game, equipment, setup, game play (turns/rounds/etc.), and the win conditions). You need to carefully write and illustrate (using original images) the process for playing your game from beginning to end.

**NOTE:** *During the usability test in class, students will have to make and play your game. So, you must keep the game design and play methods simple in order for it to be made and played in less than 30 minutes.*

Overall, the instruction set for making and playing your game should include a cover page with the name of the game and team members names, the title, an introduction to the document and its purpose, information about making and playing the game, the materials/equipment required, an overview of conditions for the game's use, instructional steps for both making and playing the game, a guide or FAQ for the game, and a glossary of terms or concepts (if necessary). Your goal is to provide all the information your audience will need to make the game and play the game successfully. Again, each partner should participate in all parts of this process. Your instructions must include text and a minimum of one visual per step for both making and playing your game. Use the checklist (see handout) to ensure that your instructions are complete.

## **EVALUATIVE CRITERIA**

Effective instructions will

- Deliver materials according to the skill level of the audience.
- Define the procedure and describe its purpose.
- Explain any needed theories or principles.
- Provide an overview of what will happen before telling readers to perform steps.
- List steps in chronological order.
- Provide transitions between steps when needed.
- Provide additional information (examples, warnings, cautions, required equipment and materials).
- Include original visuals that effectively assist readers in understanding the instructions.
- Employ usable and appealing document design.

**USABILITY TESTING**

Your instructions should be easy to learn, quick to complete with few errors, memorable, and pleasant to use. For the usability testing class meeting, you will bring a complete set of materials and instructions needed to make and play your game. Another team will test your instructions by performing the designated tasks and playing the game while noting where and when problems or confusion occurs. You will then receive a debriefing from the testing team that you must use to revise your instructions.

**REVISING THE INSTRUCTIONS**

Using the advice and insights gained from the usability testing team, your design team must revise your instructions. This helps your team assure that your instructions achieve their intended purpose and are suitable for your audience.

**DELIVERABLES**

At the end of the project, submit the following items:

- Digital version of instructions (upload to Canvas; one per team)
- Usability testing forms received (upload to Canvas; one per team)
- Performance evaluations memos (upload to Canvas; individual)
- Completely assembled game with print instructions (one physical copy to me)

Codebook

Please see attached Excel sheet in Canvas.