

MASTERING SOFTWARE:
GAMIFICATION OF A HELP SYSTEM

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

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Abstract

All software applications provide some sort of help system to users but it is rarely used even if they get stuck. Instead, most users choose a trial and error approach which limits the learning about the software's capabilities and functionalities and can even result in inappropriate use. Current help systems are not very interactive in that they do not provide any feedback regarding the progress or success of users' actions and furthermore there are no incentives for users to learn and master a software application. In games, however, the learning component contains both these elements and mastery almost naturally comes to most people.

This research evaluates Ribbon Hero 2, a "gamified" help system for Microsoft Office, and investigates whether it supports and encourages users' learning and mastering of a software application. The review was based on the game flow theory, a method to quantify and observe the type of experience gamers seek. Then, a situated co-inquiry with six participants was conducted to observe actual experience at play.

Contrasting and comparing these two steps lead to the following findings. Game flow theory is a good game evaluation tool but it lacks consideration of player types. Thus, it cannot be used by itself to design or evaluate gamified help systems but its implementation is a pre-requisite for this type of learning. Ribbon Hero 2 had several bugs, inconsistent game behaviour and lacked social interaction and a proper point rating system. These limitations disparaged the overall (game) experience. If gamification is applied to learning (games) but is not correctly implemented, the results are counter-productive. However, sitting alongside participants as part of the situated co-inquiry method encouraged them to continue and once participants left behind those bugs Ribbon Hero 2 made them smile and enjoy learning while playing. Future research and development will benefit by focusing on individual learning styles by targeting different game genres and player types.

1. Introduction

1.1. Personal Background

I can't remember what exactly it was that got me interested in Information Technology and Computer Science but it has been my passion ever since I used an Atari for the first time in 1992. My first steps into this direction involved playing games rather than writing code or developing and using software and it was like that for many years. No matter how easy or complicated a game was, it felt so natural as it's exactly the same occupation that one is doing as a child: exploring the game or mechanics of a system, learning how to master it and, most importantly, having fun at the same time.

1.2. Motivation

After observing users of different operation systems or applications serving the same purpose but implemented in a different manner¹, I noticed that most users run into all kinds of problems no matter what system they are using.

However, in most cases the used system provides all it needs to achieve the desired outcome, e.g. , a built-in help system or manual which explains step by step what one needs to do. Nevertheless, in most cases it does not help the user for many reasons. Sometimes, the functionality seems to be hidden from or just not noticed by the user. Therefore, some systems even try to be smart on user needs, e.g., systems try to predict the next step or action and perform it, e.g. it corrects user input on the fly, or it provides help and hints. Although, in theory being smart on user needs is sound, the implementation is often misguided, incomplete or inappropriate. Again, the reasons are manifold but the overall end result is that users complain about poor or missing functionality.

As mentioned before, playing games is something that almost naturally comes to

¹e.g. Microsoft Windows vs. Apple MacOSX vs. any Linux distribution, Microsoft Office vs. OpenOffice, Microsoft Internet Explorer vs. Mozilla Firefox vs. Google Chrome vs. Apple Safari

most people; also it often requires a lot of learning to master a game. Thus, the question is how can techniques that are used in games be incorporated into applications (or vice versa) and will users profit from it? Often learning is not perceived as fun by many people but playing (computer) games of all kinds is. Moreover, one could say playing games equals to joy amongst learning how something works and how to master it. So why not combine these characteristics to the ever-growing stack of information systems that one has to deal with everyday?

1.3. Research Goal

Following the motivation, the main research goal is to evaluate a “gamified” help system called Ribbon Hero 2 (RH2). RH2 is a help system replacement for Microsoft (MS) Office. The evaluation is based on game mechanics as summarised by the game flow theory, i.e. clear goals, concentration, player skills, control, challenge, immersion, feedback and social interaction. It is anticipated that the system will lead to deeper learning of the system’s functionality, thus, greater utility and (more) satisfaction. In addition, playing RH2 might result in the learning of more generic skills that can be applied to other parts within MS Office or even other information systems. Moreover, it might simplify learning of overloaded user interface elements and its different functionalities based on context of use and encourage users to follow best practices.

It is anticipated that such a system can ease the learning process for new or inexperienced users. Also, expert users, early adopters or long term users might gain extra motivation to transition from older versions of a program to a newer one.

Originally, this research started out with the idea to develop an Add-On for the Mozilla Firefox web browser which should serve as the basis for this research. However, after developmental work and further investigation this approach turned out to be unsuitable in the given time frame of this thesis. Fortunately, RH2, a prototype of a gamified help system, was found. It adds a game(-like) environment to some Office programs and thus it already provides a suitable platform for this research.

Overall, the methodology is based on a review of a gamified help system based on game flow theory and situated co-inquiry—a cooperative talk aloud approach at the heart of user or participant’s experience.

1.4. Structure

This thesis is composed of 7 chapters: introduction, past research, methodology, analysis, discussion, shortcomings and future work. Chapter 2 covers past research on assisted learning of information system, Ribbon Hero 2 and game flow theory. Chapter 3 outlines the chosen research approach as well as the data collection and analysis process. Chapter 4 presents the analysis of the collected data regarding the implementation of the gamified help system and its (dis-)advantages over current approaches based on findings from situated co-inquiry. Chapter 5 provides a summary and a conclusion and chapter 6 and chapter 7 highlight shortcomings and future work, respectively.

2. Past Research

All software applications have built-in help systems, however, they are rarely used (Rieman, 1996). This does not apply in gaming where learning and mastering of games through the built-in tutorial is a common way and widely accepted (Carroll, 1982; Malone, 1982; Shneiderman, 1983). Currently available options to support users' learning and mastering of software applications are outlined in section 2.1 as well as users' motivation for using help systems. Game mechanics and concepts from computer video games are presented in section 2.2 focusing on the potential they have to improve learning and mastering of software applications. The game flow theory by Sweetser & Wyeth (2005) provides a particularly interesting assembly of game mechanics and is presented in section 2.3. Finally, section 2.4 highlights three different models for categorising users or players in the context of this research.

2.1. Exploratory Learning

Nowadays, many different approaches exist to support learning and mastering the use of software. These include¹:

- integrated help systems
- man pages (mainly in UNIX-like operation systems)
- handbooks/manuals (online)
- (e-)books
- online/print magazines & articles
- tutorials (video/audio)
- (online) forums

However, these approaches are not very interactive in that they do not provide any feedback regarding the progress or success and failure of users' actions. Furthermore, most of the above mentioned options (except integrated help systems and man pages)

¹This list is not intended to be exhaustive.

are third party products and beyond many users', especially beginners, knowledge, ability or willingness to download and use (Rieman, 1996). Integrated help systems are often part of the software application itself. Man pages belong to the software but contain descriptions of command-line tools rather than software applications like word-processing, web browser, etc.

Most users appear to have a "learning by doing" approach when it comes to learning a software application. According to Rieman (1996) "users are primarily concerned with accomplishing the tasks that define their jobs." They are not motivated to learn functions beyond that. Also, solving certain tasks may require them to use more than one single application. Studying each application in detail is time consuming and therefore impractical.

In addition to this, the difference between two different versions of an application or the shift to another software vendor is so big that each time it requires training and changing the mindset (Rieman, 1996). Thus, users prefer exploratory learning of new or already known functions and features of (operating) systems or software applications until this approach does not lead to expected results and requires one or more of the former mentioned options (Rieman, 1996). Often, the order of user actions in using any software application is the following (Rieman, 1996):

1. trial and error
2. social interaction, i.e. ask other people for help
3. read the manual if available.

But primary focus on accomplishing tasks has some major implications:

1. users postpone learning until motivated by real tasks
2. and thus, do not learn all applications' capabilities what might result in an inappropriate way of using an application

Even though "previous research recognized the utility of human cycles and game-like interfaces" (von Ahn & Dabbish, 2008) the idea of using games or game-like interfaces to facilitate human brainpower only recently gained momentum and enough interest as further pointed out by von Ahn & Dabbish (2008). No one, however, successfully combined or extracted game concepts and mechanics into a general method that is widely accepted or in use (von Ahn & Dabbish, 2008). Thus, there is no empirical proof that a system or an interface with applied game aspects to it actually works as no such systems have existed until recently.

2.2. Gamification

In contrast to “serious” software applications many computer games provide a built-in tutorial. Such a tutorial is often part of the game itself, i.e. it is compulsory although one can often skip or speed up parts of it. However, it encourages users’ learning as one goes along the different stages and levels of the game (Sweetser & Wyeth, 2005). Moreover, the game provides help in appropriate situations. Once the player learned all game mechanics he is left alone to complete and master the game. Nevertheless, the progress is monitored and the player constantly receives feedback on his actions, e. g. indicated success—“doing the right thing” according to the game rules—through an increasing high-score.

As far back as the beginning of information technology and wider computer system adoption, researchers noticed that computer games were widely accepted even across non-literate computer users. They discovered and managed to play those games even though the user interfaces of computer systems were rudimentary at that time compared to present standards. Based on previous research by Malone (1982); Shneiderman (1983); Carroll (1982), however, Rieman (1996) pointed out that most users learned very fast how to use a system to access the games running on it. There is therefore a great opportunity for serious software applications to use game mechanics encouraging for users to learn and master their applications.

The use or incorporation of game mechanics and elements of play in non-game applications is called gamification (Lee & Hammer, 2011; Wikipedia, 2011). Moreover, the main purpose of applying game mechanics to serious software applications is to increase user engagement and adoption of a particular brand but also encourage desired user behaviour and actions. To achieve that, high scores and achievement based systems are most often used. The achievements or badges then allow tracking the overall progress and outline further goals whereas the main use of the high score function is as a comparison indicator to other users. Thus far, the use of gamification is strongly marketing-oriented to further bind users to own consumer goods and services. That is, gamification is used to introduce new or extend existing customer loyalty programs. Further application happens in domains like politics, health and fitness. All in all, however, the full spectrum of game mechanics is reduced to certain techniques and characteristics like collecting points and badges (Hide & Seek, 2011).

For the purposes of this research and to fit within the constraints of a Master’s thesis, gamification is defined as the use of game mechanics based on the game flow theory developed by Sweetser & Wyeth (2005). This theory is described in section 2.3 where the rationale for choosing it is explained.

2.2.1. Ribbon Hero

To increase user adoption of newer versions of the Microsoft Office suite but even more to ease its use and increase productivity, Microsoft introduced a whole new user interface (UI) between versions 2003 and 2007. The goal was to change it for the better by making it context sensitive, i.e. the UI menus and buttons are altered based on cursor position within the text, selected text or clicked elements, etc. or common next steps based on some metrics gained from observed use patterns and compiled by Microsoft. Thus, it is expected to be more intuitive.

Even though the idea is sound the new system failed to meet user requirements (Cummings, 2011) so that many users still rely on a help system. But as previously mentioned the reasons why current implementations of help systems are insufficient are manifold. The available options from the Microsoft Office suite are no exception. Thus, Microsoft Office Labs created a game called Ribbon Hero and its successor Ribbon Hero 2 (RH2). Basically, the game hooks into the current installation of Microsoft Office 2007 or 2010 and adds a game layer. Then, it provides different tasks or goals and guides the player through how to achieve these. At the same time it tracks the progress and reacts to user actions in some way or other. Therefore, RH2 is qualified as an object of study to research the suitability of game environments in software applications.

2.3. Game Flow Theory

The Game-Flow theory, developed by Sweetser & Wyeth (2005), provides a model for evaluation of player enjoyment in games, that is, to quantify and observe the type of experience gamers seek. In detail, the game flow theory is based on past research outcomes on different aspects of games, play and enjoyment but it combines, summarises and unifies these outcomes in a structured way. The structure is build upon the flow theory by Csikszentmihalyi (1990), a universal model for enjoyment that was extracted from an interview based inquiry that took place over several years. In the following the term “flow” and the different elements of the game flow theory will be outlined.

2.3.1. Flow

Csikszentmihalyi (1990) describes flow (also termed as optimal experience) as “so gratifying that people are willing to do it for its own sake, with little concern for what they will get out of it, even when it is difficult or dangerous”. It can be achieved

for all kind of activities and it happens irrespectively of general and personal factors or statuses like gender, age or social class.

According to Csikszentmihalyi (1990) flow consists of eight elements, as follows:

1. a task that can be accomplished
2. the ability (having the freedom) to concentrate on the task
3. clear unambiguous goals defined through the task
4. immediate feedback on actions related to the goals
5. the feeling of being in full control of actions
6. deep but effortless involvement into everything task-related removing awareness of other concerns
7. reduced self-consciousness that, however, emerges stronger afterwards
8. altered sense of time as in duration

Game flow consists of eight elements as well which are mapped to some flow counterpart (Sweetser & Wyeth, 2005). However, such a mapping is never accurate as “any model is just a representation of the particular set of invariances we are interested in” as pointed out by Cowley et al. (2008). Moreover, if two models need to be compared at least one of those sets must be transformed but such a transformation cannot guarantee the absence of undesired side effects “since the models are by their nature inexact representations” (Cowley et al., 2008). In other words, the result of a transformation might “show properties not found in the process it imitates or not possess properties possessed by the properties it imitates” (Cowley et al., 2008). To circumvent this issue Cowley et al. (2008) suggests to treat games as information systems and therefore, use mathematical formalisms of information theory. However, in the context of this research this method is not applicable, especially since Cowley et al. (2008) considers learning of such an information system as a pre-requisite for using it.

Game Flow	Flow
Concentration	Ability to concentrate on a task
Control	Feeling of being in full control of actions
Clear Goals	Clear unambiguous goals
Feedback	Immediate feedback on actions related to the goals
Immersion	Deep but effortless involvement, reduced self-consciousness and altered sense of time

Table 2.1.: Mapping of game flow to flow adapted from Sweetser & Wyeth (2005)

In contrast, game flow considers learning as part of the gaming experience as outlined

later on. Therefore, both the game flow theory and its connection to the original flow theory is analysed in more detail as follows. In game flow, the task is the game itself. Further elements are mapped as described in Table 2.1. The table contains only five elements as the other three elements, i.e. challenge, player skills and social interaction, cannot be mapped directly. Moreover, in the original flow theory the element social interaction (as in game flow) is part of the task whereas the two outstanding elements challenge and player skills do not belong to flow at all. Instead, challenge and player skills are described as precursor by Csikszentmihalyi (1990).

2.3.2. Elements

The game flow theory consists of eight elements as a whole: concentration, challenge, player skill, clear goals, control, social interaction, immersion and feedback. Moreover, “each element includes of a set of criteria for achieving enjoyment in games” (Sweetser & Wyeth, 2005). In the following each element will be explained in detail followed by a critique of its appropriateness in software applications rather than games.

Concentration

According to Csikszentmihalyi (1990); Sweetser & Wyeth (2005) the element concentration has two aspects. On one hand, an activity is needed that is worthwhile to concentrate on (Brown & Cairns, 2004), for example, a detailed game world that grabs a player’s attention and draws him into the game (Johnson & Wiles, 2003). On the other, hand the person must have the ability to concentrate on the activity, e.g. the player should not be distracted if one needs to concentrate on one important activity. If both pre-requisites are fulfilled and, in addition, all relevant skills of a person or player are required to cope with that activity then all attentiveness and energy is only devoted to this activity leaving no room for further activities (Csikszentmihalyi, 1990).

In general, a game should grab players’ attention as early as possible and keep it on a certain level without distracting the player through negligible or repetitive activities (Sweetser & Wyeth, 2005; Pagulayan et al., 2002; Lazzaro, 2004). To keep the concentration high throughout the game it should provide enough stimulation at all times. However, it should not overcharge players through inappropriate high workload (“perceptual, cognitive and memory limits” (Sweetser & Wyeth, 2005)) or demand to little so that given tasks feel unimportant and thus, lead to boredom

(Fullerton et al., 2004). Moreover, distractions caused by non-game related interactions like game settings or by an inappropriate user interface should be minimised.

Normally, an application is used to cope with tasks or to solve problems. Therefore, both aspects as mentioned above are covered, i.e. there is an activity that is worthwhile to concentrate on and a person must have the ability to concentrate on the activity. However, it is not necessarily true that all activities are not negligible or non-repetitive, especially in a work environment. Nevertheless, learning and mastering how to effectively cope with given tasks or problems is different from exercising the tasks. Thus, as long as the gamified help system lets one concentrate on the learning and mastering process with due regard to the both aspects it does not contradict the idea of improving the learning/mastering process if enough time is allocated to it.

Also, in practice it is difficult to ensure all concentration is directed to a given task. In most cases starting a game means stopping or at least hiding everything else running on a machine, that is the game runs in full window mode whereas that is not true for most software applications, especially when other applications which run in the background interfere. The interface, however, of both the application and its help system can be controlled and, thus, interactions caused by distractions not related to the task/problem should be minimised as much as possible, i.e. the UI design must fit the purpose and meet user needs.

Challenge

Sweetser & Wyeth (2005) state that challenge is “the most important aspect of good game design”. Therefore, user challenge needs to be appropriate, i.e. game activity related challenges need to match with player skills. Moreover, both the challenge and the skills need to be over a certain level (Johnson & Wiles, 2003). However, if the skills are too low to cope with the challenges the consequence is anxiety (Johnson & Wiles, 2003). Vice versa, that is if the player’s skills outmatch the challenge the effect is apathy (Johnson & Wiles, 2003).

Similar to flow, challenge in games yields enjoyment and satisfaction after accomplishing difficult tasks like challenging and beating artificial and, even more, human opponents or coping with danger (Vorderer et al., 2003). The general description is testing and mastering skills (Lazzaro, 2004; Fullerton et al., 2004) or achieving desired goals (Federoff, 2002). In many cases the challenge entails memorising, e.g. facts, and performing actions in a specific order and limited time, e.g. pressing a sequence of key combinations quickly enough (Lazzaro, 2004). As a general rule, varying missions and goals as well as proper artificial intelligence (AI) for opponents and allies, respectively, are proper ways to create and maintain an appropriate level

of challenge.

A game should provide a suitable challenge from the beginning. Fulfilling this requirement can be achieved by allowing the adjustment of the difficulty level (Federoff, 2002; Johnson & Wiles, 2003) or automatically adapting to player skills (Pagulayan et al., 2002), e.g. adjust the probability for success if player skills are low or raise failure in competitive situations or if player skills are superior (Vorderer et al., 2003). Furthermore, the level of challenge should increase with growing player skills and game progress to provide more challenge as the player develops mastery (Sweetser & Wyeth, 2005; Desurvire et al., 2004; Pagulayan et al., 2002). In this way, the game experience is positive so that players want to continue playing the game (Desurvire et al., 2004), especially until its completion (Johnson & Wiles, 2003). If the game does not start out too difficult and encourages players to experiment with and apply different or new strategies, it raises the re-play factor (Pagulayan et al., 2002).

Two of the most important aspects of challenge are rate and pace. The rate describes the amount of new challenges and thus, experiences presented to the player in a given time, whereas the pace is an indicator for the time distance between two challenges. According to Sweetser & Wyeth (2005) both factors need to be reasonable to maintain proper “difficulty levels of challenge and tension throughout the game”. Otherwise, the result will be high level of pressure which leads to frustration and fatigue (Federoff, 2002; Desurvire et al., 2004).

Challenges during work can be too easy or too difficult, however, that does not necessarily apply to a gamified help system with a good game design. In general, solving problems or accomplishing goals in real life as well as in a game world will lead to satisfaction. As for continuation of play, especially until the completion of the game, it will depend on the time allocated to learning as it is limited in a working environment in general. The same applies to the re-play factor which could be very big for most applications and its gamified help systems as the solution process to accomplishing tasks or solving problems can be varied. However, re-playing or re-thinking a solution process will often lead to better learning and especially mastering unless the basic requirements of challenge are not satisfied, that is the skill set required for a challenge is too low or too high which results in apathy or anxiety. In sum, creating an appropriate challenge in a gamified help system is as important as it would be in a normal game.

Player Skills

To achieve optimal experience in a game, that is create enjoyment and satisfaction, the game, its story, activities and mechanics should be introduced to the player in a manner and speed one can understand and follow, “support player skill development

and mastery” (Sweetser & Wyeth, 2005). If, however, player skills (perceived) do not match with the challenge optimal experience can not be achieved. Moreover, the way of learning and mastering the game is crucial to players’ skills development and thus, optimal experience (Sweetser & Wyeth, 2005).

In general, skill development should be the result of playing the game, i.e. learning and mastery should happen in-game rather than externally like reading a manual. According to Federoff (2002) part of the game should be an interesting and absorbing tutorial which teaches the player all the background, how to play it and, in addition, draws players’ attention quickly and easily into the game (Desurvire et al., 2004). The way of how one learns about the game mechanics has a huge impact on the enjoyment of the game. Desurvire et al. (2004) state that through interesting and into the game world drawing tutorials players become motivated and involved in a fast and efficient manner. Thus, a game should provide enough information from the beginning so that players can play without learning the game by reading a manual, handbook, etc. (s. section 2.1) (Desurvire et al., 2004; Federoff, 2002; Gee, 2004). Otherwise players can become bored (Pagulayan et al., 2002), especially if game story is overemphasised through long and complex descriptions at the cost of what can be done and how rather than being included in the game itself (Cornett, 2004).

By providing in-game feedback straight from the beginning, especially while playing the tutorial, players can progress in learning the basic game mechanics without difficulty (Pagulayan et al., 2002). Through learning by doing (or playing) players can improve existing and gain new skills as part of carrying out in-game goals, tasks or activities and accomplishing things (Pagulayan et al., 2002; Gee, 2004). Moreover, players need and want to do that in the context of the game itself and in a controlled and measured manner (Pagulayan et al., 2002). To keep players’ motivation on a certain level, though, continuous learning and playing needs to be rewarded appropriately (Sweetser & Wyeth, 2005; Pagulayan et al., 2002), in other words “the effort invested in a game should equal the rewards of success” (Brown & Cairns, 2004).

Instead of the need to opt out from a game session to get a solution to a problem and opt in again, thereafter, a game should provide built-in help, i.e. the help system is integrated into the game so that players can easily train their skills (Johnson & Wiles, 2003; Federoff, 2002). To further minimise distraction in problematic cases an even better approach is to provide just in time or on demand help (Gee, 2004; Sweetser & Dennis, 2003), e.g. in form of hints (Federoff, 2002) or in a context sensitive way (Desurvire et al., 2004), especially if the player repeatedly fails with the current skill set.

Beyond the former mentioned criteria learning the game can be eased and supported

by adhering and conforming to platform conventions and – more general – industry standards (Johnson & Wiles, 2003) and trends (Federoff, 2002; Desurvire et al., 2004). Moreover, the game interfaces should be consistent throughout and conform to industry standards for keyboard, mouse and controller function in the particular genre (Federoff, 2002). Reasonable mapping of buttons, keys and its combinations as well as other input mechanisms can shorten the learning curve (Pagulayan et al., 2002; Desurvire et al., 2004). It can be achieved by using interface metaphors and analogies to the real world which are simple and non-intrusive so that understanding of how to navigate through the environment and interact with characters and objects is self-explanatory (Federoff, 2002).

By experience it is well known that one’s own skills do not always match with the difficulty level of assigned tasks in a working environment. However, that does not mean that one is not able to carry out those tasks at all if enough time can be allocated to acquire needed skills or to “upskill”. There is high chance a game can ease skill development as it would be embedded into the application itself, thus, there is no need to opt out from a session and the working environment, respectively, to learn and master an application required to deal with a task at hand. Moreover, constant feedback through the game provides an indicator for the skill development process. Although that is not an ultimate guarantee that one will be able to carry out real world tasks the game progress provides some useful metrics in regard to the (overall) performance and skill level. The overall degree of skill development, however, will vary based on game type, scenario and individual background.

Control

According to Kane (2003), players need to “feel a sense of control over their actions [...] like they are playing the game, not being played by it” (Sweetser & Wyeth, 2005) in order to achieve the optimal experience or flow. Furthermore, this element is context sensitive, i.e. it can basically be divided into three categories as follows: game interface (shell or external mechanics, i.e. to the player exposed), internal mechanics and choice and responsibility in the game world.

First and foremost, players should be able to turn the game on and off easily (Desurvire et al., 2004). Furthermore, it should be possible to choose the game(-play) mode (Pagulayan et al., 2002) and to save the state of a game session when appropriate (Sweetser & Wyeth, 2005). Thus, gamers can explore the game (world) in a way they want and at their own pace (Federoff, 2002).

The game interface or shell should be easy to use and intuitive, i.e. the menus are well structured and its labels meaningful so that players will unlikely experience problems navigating the menus (Johnson & Wiles, 2003). In particular, aesthetics

should not be favoured over readability and functionality as stated by Johnson & Wiles (2003).

Altogether, “players should be able to adequately translate their intentions into in-game behaviour” (Sweetser & Wyeth, 2005; Pagulayan et al., 2002). In other words, the mapping between what the user wants and how the game actually responds to the user input should not be surprising but follow good conventions which are effective and easy to understand, learn and use (Federoff, 2002; Johnson & Wiles, 2003). Moreover, it should be possible to adapt controls to one’s own needs (Federoff, 2002; Adams, 2004) and expand them for advanced options (Desurvire et al., 2004) as mastery of the control system is often an important part of most games (Sweetser & Wyeth, 2005; Johnson & Wiles, 2003).

Generally, the internal mechanics of any software should be free from errors and bugs. If a game contains bugs that lead to loss of control, “especially if the errors or consequences are out of control of the player” (Sweetser & Wyeth, 2005) flow can not be achieved as players drop out from the game involuntarily which causes interruption. Thus, it should not be possible for players to crash the game or stop it from working unwillingly as stated by Adams (2004). Moreover, games should provide mechanisms which help to recognise, analyse and recover from errors so that players can prevent them in future (Federoff, 2002).

In general, players should have a sense of impact onto the game world according to Desurvire et al. (2004). Player decisions and actions should shape the game world and influence it, e.g. interactions with objects and changing their state are part of the game and its intermediate goals (Gee, 2004; Desurvire et al., 2004). Moreover, the game should save the state of the game world so that changes become persistent. Thus, players can remember places, passages or happenings and can see their impact on the game world in retrospect (Desurvire et al., 2004). If the degree of player impact on the game world is wide, e.g. the story is non-linear and gameplay can be varied, then the game is suitable to a broader audience (Gee, 2004) and it is highly re-playable as every decision leads to different state of the game world. Therefore, there are many possibilities for action resulting in several solutions or strategies to solve problems (Sweetser & Wyeth, 2005). Contrariwise, decision making for the sake of doing it should not be enforced on the player if not important to avoid burdening the player with chores that can result in boredom (Fullerton et al., 2004).

In general, the requirements of this element mapped on software applications are either satisfied or main area of research in HCI, UCD and more traditional subjects like software architecture or information systems. In other words, effectively every software application allows the user to turn it on and off and save the state of the current session, e.g. save a text document, and use the application at their own

pace. The interface, however, is often changed or refined from version to version and can be a unique feature/characteristic (unique selling point) offered by a software vendor. In such a case gamification can ease the re-education by providing a different kind of introduction or how-to for the application use. Beyond that, interfaces are subject of research in HCI and/or UCD to provide an adequate user experience and expand what is possible. As with all software (including games) it is common sense that internal mechanics should be error free to reduce or avoid interruption and, therefore, facilitate flow.

All in all, the use of most applications is non-linear and allows for different use patterns or strategies. However, mastery is often accompanied by reducing the number of possible solution processes and identifying the most common or most useful ones. Therefore, gamification can be a good fit to enhance process optimisation if the presented solutions meet one's requirements.

Clear Goals

In general, a game must have one overall goal or objective and several tasks or missions (Federoff, 2002; Sweetser & Wyeth, 2005) and the goal must be clear. Otherwise, optimal experience or flow can not be achieved (Csikszentmihalyi, 1990; Johnson & Wiles, 2003).

The goal and the individual tasks should be provided at appropriate times. Moreover, the overall objective should be presented in the beginning while intermediate missions should appear in due time (Federoff, 2002).

To achieve optimal experience (intermediate) goals must be presented and communicated in a clear and easy to understand way. For example, the overall goals are often showed in a pre-rendered movie or are scripted using the game engine itself according to Pagulayan et al. (2002). In addition, each task, level or mission is narrowed down in briefings so that players are focused on intermediate objectives.

It should be fairly uncomplicated to communicate clear goals in a gamified help system for software applications. This can often be the matter of presenting a before and after state with short annotations and providing step by step instructions in due time. Yet, the gamified help system might fail to help the user as the communicated goals apply to the game world, i.e. a hypothetical use case scenario, and therefore it might be difficult to project the learned knowledge on real world examples.

Feedback

As a general rule, in-game feedback should be provided on all user actions immediately (Desurvire et al., 2004; Johnson & Wiles, 2003) to facilitate optimal experience as mentioned by Csikszentmihalyi (1990). As with clear goals the feedback needs to be appropriate and should appear at right times. Frequent feedback reflects progress towards (intermediate) goals allowing players to estimate the effort required to complete the current objective Pagulayan et al. (2002). Moreover, feedback on progress and success is considered as a reward (Lazzaro, 2004).

If the player loses or comes to a standstill the game should support the player “if and how they are moving in the right direction” (Sweetser & Wyeth, 2005; Gee, 2004). Aside from that, the player should always be informed about one’s status and overall score in order “to encourage mastery of the game” (Sweetser & Wyeth, 2005; Federoff, 2002). Thus, the overall score should be present and easy to identify at all times (Federoff, 2002). If necessary, providing feedback can be supported through in-game interfaces and sounds (Federoff, 2002; Pagulayan et al., 2002).

In general, every application provides feedback on user actions as it displays the results, e.g. typing, changing the formatting, etc. Nevertheless, providing feedback on overall progress is not always possible. In the real world scenario desired outcomes or requirements exist outside of the program and, thus, the end state or result might be unknown to the application unless using a pre-defined template. This, however, does not apply to a gamified help system that consists of a game world with pre-defined tasks or goals and game mechanics upon which the (overall) progress state can be derived from. Therefore, the feedback element should be incorporated into the design of a gamified help system.

Immersion

Immersion, also termed as engagement and absorption, describes an indicator for users’ involvement in the game. According to Sweetser & Wyeth (2005) immersion means “deep but effortless involvement” which can lead to loss of (self-) awareness and surroundings (Csikszentmihalyi, 1990; Brown & Cairns, 2004; Johnson & Wiles, 2003). Moreover, immersion can result in an “altered sense of time” (Sweetser & Wyeth, 2005; Csikszentmihalyi, 1990) what is often reflected by the point in time and duration of playing the game, e.g. game sessions over whole weekends or during nights (Johnson & Wiles, 2003).

Immersion often manifests itself through the effort, attentiveness and the time quantity devoted to playing the game (Brown & Cairns, 2004). Players can become emotionally connected with the game world or character so that play is considered more

important than other activities or real life obligations. In fact, emotions are even directly influenced by game happenings (Brown & Cairns, 2004). Thus, many people play games to experience emotions of all kinds. Lazzaro (2004) states that games are used as a chance to refrain from work or school, “to calm down after a hard day” (Lazzaro, 2004) or “escape from everyday worries” (Sweetser & Wyeth, 2005). On the other hand, many people also enjoy new challenges and experimenting with thoughts and ideas or simply testing their own abilities in different environments which are not available in real life or restricted to social norms (Lazzaro, 2004). For instance, first person shooter allow to escape from real world and social permission, racing or flying are resource-intensive and (military) strategic decisions require many skills and can have a huge impact on different parties.

In order to achieve immersion games should establish a level of deep, personal, emotional and visceral involvement (Desurvire et al., 2004). Such a state stimulates the transition into being part of the game where people do not notice the interface of the medium used to participate (Lazzaro, 2004; Federoff, 2002). It also entices and facilitates lingering in the game (Lazzaro, 2004). According to Sweetser & Johnson (2004) moving players’ senses emotionally through audio like sound effects and soundtracks is supportive in this process. Furthermore, narratives for example in the beginning of the game but also throughout the main storyline grab the player’s attention by providing a background. Thus, a connection is established between the happenings and game characters and the mind is shifted to the next objectives. That not only helps players to become immersed in the game but also keep them involved on a certain level (Sweetser & Johnson, 2004).

As with games or other activities immersion can happen in a working environment, too, and usually results in all kind of side effects as mentioned previously. But compared to games from traditional genres like action (e.g. shooter) or simulation (e.g. racing), playing a game aimed to replace or at least provide an alternative to traditional help systems might not have the same effects on the players, that is, it might not create the same depth of immersion. Whether immersion takes place or not might depend on the importance of learning, i.e. even though one will definitely learn at least about game mechanics, having fun while playing still has priority.

Social Interaction

Technically speaking, the element social interaction is not an element of flow. If anything it is even violating flow as it creates an interruption from immersion by connecting to the real world and allowing players to opt out from the game (Sweetser & Wyeth, 2005). Nevertheless, it is an important factor for enjoyment in games as people enjoy playing games, particularly, because it is a form of social interaction.

Additionally, social interaction is not necessarily a contradiction to flow since it can be part of the game itself like in a massive multiplayer online game (MMOG). At the same time it does not even matter whether one likes games at all or just playing a specific one (Lazzaro, 2004). Thus, social interaction should be supported by the game.

To achieve or facilitate social interaction games should ideally support in-game competition and cooperation between players (Lazzaro, 2004; Pagulayan et al., 2002). Thus, the game needs to provide appropriate (game) mechanics to support player to player (P2P) interaction Lazzaro (2004). Beyond that, games should also support building external connections and communities to reflect the social phenomena of gaming, that is P2P interaction between people in general or friends and family in particular (Lazzaro, 2004; Sweetser & Dennis, 2003). As people like watching others play and, in general, respond to what happens by expressing emotions like *schadenfreude* or by proud information exchange, both internal (in-game) and external media and communication channels should be supported, e.g. chats or forums (Cornett, 2004; Lazzaro, 2004). In addition, Vorderer et al. (2003) points out that competition is an important aspect “as people gain satisfaction from competing against and beating each other” (Sweetser & Johnson, 2004), i.e. it drives excellence.

All in all, the element social interaction can be a booster for immersion or the exact opposite dependent on its importance and how well it is integrated into the game. In reality, however, social interaction is already part of software applications as there is almost always a community built around the use of a software system or application. Thus, a gamified help system should facilitate social interaction as well to reflect the same characteristics that appear in real life software use.

Summary

Table 2.2 provides a short summary of each element. Moreover, appendix A provides a checklist of criteria for each element. Together, these are used as an evaluation tool in the review process as outlined in section 3.1.

2.4. User Categorisation

The user experience as well as the probability of getting into flow depends on the challenge and one’s own skills as highlighted in subsection 2.3.1. The player type, however, is not covered by game flow but Cowley et al. (2008) suggests that this is limitation of the theory and therefore, should be taken into consideration to maximise optimal experience. Under the assumption that a perfect combination of chal-

Element	Summary
Concentration	A game should grab the user's attention and keep it on a certain level without distracting the user by negligible tasks.
Challenge	Challenge needs to be appropriate for the user from the beginning, i.e. the difficulty level should be either adjustable or automatically adapting to the user skills, and increase as user skills improve.
Player Skills	Means that the game (mechanics) should be introduced to the user in a manner and speed one can understand and follow. Furthermore, it should happen in-game rather than external, e.g. reading a manual.
Control	The user "should feel a sense of control over" one's actions. Thereby, the game should assist the user by using different techniques and help to avoid or recover from errors.
Clear Goals	Goals should be provided at appropriate times, i.e. the overall goal should be presented in the beginning and intermediate goals in due time.
Feedback	Feedback should be provided (immediately) on all user actions and one's progress. Moreover, the user should always be informed about one's status or score.
Immersion	Immersion means the user's involvement in the game, e. g. emotional, less (self-) aware of surroundings, time and everyday life.
Social Interaction	Should be supported by the game, for instance through competition or cooperation and chat, both internal (in-game) and external through other media and communication channels.

Table 2.2.: Summary of each game flow element

challenge and skills for a mixed group of people cannot be guaranteed it is important to categorise the user base.

As Ribbon Hero 2 is classified as a gamified system, i.e. a software application that serves a serious task but behaves like a game, there are several suitable models to categorise users or players, as follows: user or player type, learning style and previous knowledge or experience with certain Microsoft Office versions. As these attributes vary with each user some of these must be asked during interviews within situated co-inquiry while others can be deduced afterwards from interview transcripts.

The following provides more detailed overviews of the three models as used in this research.

2.4.1. Application Model

The users who participate in this research are categorised into five groups as suggested by Beauvisage (2009). The five groups are: web-oriented, instant messaging,

games, multimedia and serious. While the instant messaging group has a stronger focus on communicating with others, including communication via mobile phone, web-oriented users focus on all things web except communication. Multimedia and games are also similar but the games group is mostly interested in gaming whereas the multimedia group consumes audio and video like music and movies. The serious group uses computers mostly for work related tasks which include the use of Office applications like spreadsheets or accounting software, i.e. “rather professional use” (Beauvisage, 2009). All in all, however, a group membership only indicates the preferred reason for using a computer and does not exclude other use patterns.

Originally, Beauvisage (2009) analyses computer use in households. Thus, the categories do not necessarily represent work related computer use patterns as such. Therefore, the categorisation based on this model is only a weak indicator but it allows to get some insights into participants’ point of views and overall computer experience.

2.4.2. Player Model

All in all, there are many different approaches to categorise players. According to Cowley et al. (2008) methods based on typologies are specifically useful for user modelling or user centred design since the match of resulting classifications and the real world ranges between reasonably accurate to very precise. One of these typologies is demographic game design (DGD) which itself is based on pre-existing models, i.e. MBTI (Ludford & Terveen, 2003) and the Keirsey temperament sorter (Keirsey & Bates, 1984).

Type	Description
Conqueror	Players from this type are very competitive, goal-oriented and enjoy being dominant both in the game and associated social groups build around the game. In a nutshell, they play to win.
Manager	This type of player is logistical, process-oriented and aims at developing mastery, i.e. players will repeat tasks and replay games “to unearth novelty at deeper levels of detail” through the newfound mastery.
Wanderer	Compared to the former mentioned types such players are mostly interested in (undemanding) new and fun experiences but they are less challenge-oriented.
Participant	This player type enjoys being part of a community and, more important, its social interactions rather than playing as such.

Table 2.3.: Types of players based on DGD (Bateman & Boon, 2005)

According to (Bateman & Boon, 2005) DGD describes four types of players as highlighted in Table 2.3. Furthermore, every player can be associated with several types

at the same time dependent on the game type, just one particular game or completely independent. In other words, “type membership is non-exclusive” (Cowley et al., 2008).

Each type can be further divided into casual (recreational), hardcore (dedicated) and combined. Contrary to common perception or (first) assumption the distinction between casual and hardcore is not defined by the amount of time spent playing a game, though. Rather, it is the extra effort invested in learning, talking or sharing knowledge and building, supporting and participating in social communities around or beyond a game in particular and gaming in general. In sum, the difference between casual and hardcore players is the degree of game-literacy (Cowley et al., 2008).

2.4.3. Learning Model

The applied learning model is based on Rieman (1996) as previously mentioned in section 2.1. Furthermore, Rieman (1996) noticed that users follow the following order of actions in using any software application:

1. trial and error
2. social interaction, i.e. ask other people for help
3. read the manual if available

As the research is quite old it is uncertain whether this pattern still holds true. Therefore, participants were asked for their preferred way of learning or using a software application.

Moreover, the results from situated co-inquiry allow evaluating RH2’s impact on users’ learning or mastering style that is change of aforementioned pattern. If the idea of gamification is sound then the third option from the previously mentioned list either can be replaced by RH2 or RH2 can be added to the list as a separate option. Moreover, order of actions might change in favour of RH2 as the preferred option.

2.4.4. Summary

While the application model mainly provides users’ background and experience, the player model indicates for whom RH2 might be a good fit to learn MS Office. Last but not least, the learning model provides insights into participants’ expectations with regards to learning and mastery.

In conclusion, there are many different factors that can influence players' acceptance or the efficiency of a gamified help system such as RH2. These factors include players' personality and aspirations, their interests in different forms of technology through to the way they learn dealing with information systems. However, the effects of different player types go beyond the scope of this research.

3. Methodology

The methodology used for this research consists of two elements, a game flow based review of RH2 by the researcher and a situated co-inquiry with six participants. The next section (3.1) outlines the review process with its potential drawbacks. It is followed by a description of the situated co-inquiry method in section 3.2 highlighting the technical details around the setup and tools or techniques used during interviews.

3.1. Review

There is no past research on the gamification of help systems using the game flow theory. Game flow was developed just recently and still lacks a design toolkit or guidelines not only for “pure” games but also for game-like environments in general.

The first part of the analysis provides a review for RH2 as it was not really clear whether RH2 could be considered as a game despite the claims of its creators. The review was based on game flow criteria as described in section 2.3 and it was completed before any data was collected from situated co-inquiry. By this means it was possible to compare Ribbon Hero 2 with traditional games.

The review was conducted by the researcher as an initial step. It is limited in that the researcher’s IT and MS Office related skills differ from average computer users or players. The existing skill level of the person reviewing the game will always play a role in the evaluation as it influences one’s experience with games as already highlighted in subsection 2.3.1 and section 2.4.

Each game flow element and its criteria were applied to RH2 in isolation and independent from user observations. As the game flow theory lacks a consideration of the player type (s. section 2.3), the analysis was augmented with a classification of the participants in this research (s. section 2.4). This was then compared and contrasted with actual user experiences thereby demonstrating the strengths and weaknesses of game flow in the context of game(-like) environments like RH2.

3.2. Situated Co-inquiry

The major methodology used in this study is one of situated inquiry as described by Carter (2007). It is a cooperative talk aloud approach at the heart of a user's or participant's experience in a way that is congruent with their cognitive and affective consciousness at play in that moment. The user is the lead character expressing one's own experience, i.e. ideas, thoughts and feelings while using or playing with an artefact, so that it is an "inquiry within experience" (Carter, 2007).

The anthropological sensibilities within grounded theory and ethnography were also suitable to guide the research and the researcher. "Grounded theory is theory that emerges from the field from the reflections of the participants when they are able to express themselves without influence from a structure or from predefined concepts that the researcher imposes in the questioning or data collection process" (Wellington, 2003). Ethnography, in comparison, "is an empirical enquiry that investigates contemporary phenomena within its real life context, especially when the boundaries between phenomena and context are not clearly evident" (Yin, 1994).

However, both methodologies did not strictly meet the requirements of this research as anthropological methods tend to shift focus from researching behaviour within a context to the research paradigm as such. An ethnographical approach also leads to studying the context itself whereas with grounded theory the focus shifts on how to avoid imposing predefined structures and concepts through the phenomena-context-relationship (Carter, 2007). Situated co-inquiry attempts to remove the abstractions inherent in grounded theory and ethnography by going directly at the user's experience. As gamification of help systems is still in its infancy, situated co-inquiry provides valuable outcomes for the design phase by reducing "distances away from this object of study" (Carter, 2007).

3.2.1. Setup

In general, a situated co-inquiry is conducted by a facilitator and a logger. In the context of this research, however, the facilitator and logger were the same person—the researcher himself. The candidates were invited randomly to participate in this research, independent of their social or cultural background, gender and age. However, children were not involved. As participants were told the topic in advance their attitude towards learning and games might have changed to prepare themselves for participating in this research.

To clarify ambiguity and ease post-processing, notes were taken and the entire session was audio and video recorded as highlighted in Figure 3.1. The video recording

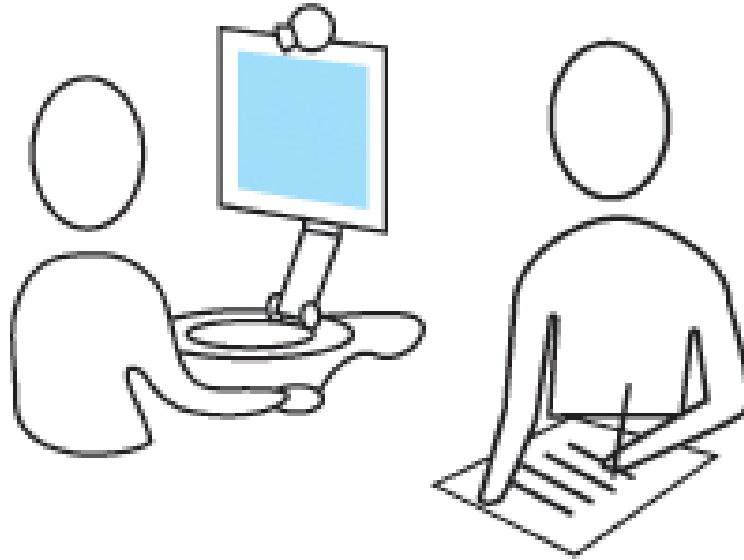


Figure 3.1.: Situated co-inquiry with audio/video recording and note taking (Limina Application Office, 2011)

captured the participant's facial expressions.

The setup worked as expected but needed some tweaking to be more efficient, requiring less post-processing. In the pilot test, two different applications were used at the same time to record the participant's experience, i.e. Camtasia Recorder¹ and Debut Video Capture². The former mentioned is capable of recording the screen as well as the tester and display both recordings at the same time as video-in-video later on. The latter one is only capable of doing one thing at a time but it can utilise the full spectrum of web cams' capabilities, thus, the resolution of the video of the participant is higher and thus the quality of the video is better.

Even though it is possible to only use Camtasia Recorder, both programmes were initially used at the same time due to an initial hardware/software problem. For some unknown reason Camtasia Recorder refused to work properly during the test of the setup before the pilot testing. As a result two different videos were created, one recording the user and the other recording the screen to capture the participant's interactions with the system, e.g. performing mouse clicks. However, the problem with two separate videos was that too much additional work was required before or during the analysis, i.e. either some time needed to be spent to synchronise the videos and render them as video-in-video to ease the post-processing or more time needed to be assigned for the analysis as such to compensate for the additional time (workload) required to deal with two separate videos. Either way, an enormous amount of time would have been required in addition to the usability testing as such.

¹<http://www.techsmith.com/camtasia.html>

²<http://www.nchsoftware.com>

After further investigation and extra time spent to update or fine tune the hardware and software the initial problems with the constellation could be resolved. Thus, only Camtasia Recorder was used for all recordings even though the quality of the video recording of the user is inferior compared to recordings created with the Debut Video Capture programme. The better video quality is not worth the enormous amount of time spent on dealing with two single video recordings as photos from the videos are meant to be used in print rather than digital form. The resolution was good enough for print.

Execution

In general, interviews were undertaken over a number of days as execution of situated co-inquiry takes a lot of time. A single session usually took place over a time range of sixty to ninety minutes. If some users struggled with the method, i.e. they forgot to talk and think aloud while interacting with the RH2, they were encouraged and motivated to continue talking.

However, when the researcher's expectations were not met, it was avoided at all times to make the users feel being wrong or be put under pressure to meet obligations through expressing opinions, in other words, to convince them otherwise. Instead, the users were motivated by rephrasing their expressions and asking simple questions which were adapted to their comprehension and experience. These helped to unfold the reasoning, personal experience and the whys and wherefores to uncover false assumptions and mistakes (Kuniavsky, 2003).

Overall, the users were encouraged to talk aloud as much as possible without distracting or interfering with their flow. Table 3.1 served as assistance on how the researcher can tease out and invite a user to describe their experience without interfering with that experience (Carter, 2007). However, not all intervention styles were used in this research. Especially the intervention styles "you're wrinkling your brow" and "nothing" were difficult to apply while taking notes and participants mainly focusing on the screen. Without constant eye contact it was not possible to catch those moments where these styles would have been appropriate. But beyond that, all styles were used in some way or other. Often, interventions were augmented with specific on-screen details or with criteria from game flow with reference to learning and mastering a serious software application.

Post-Processing

The post-processing of situated co-inquiry (interviews) was based on the guidelines provided by Love (1994). Therefore, the following criteria was used in the evaluation

Intervention	User response
Why are you frowning?	Requests a cognitive process that may interfere with the user's experience if it is affective or kinaesthetic. Searching for reasons and rationale is a constructive cognitive activity.
What are you thinking?	The user's experience may still be affective/kinaesthetic. Requesting a cognitive process may interfere with this.
What are you experiencing?	Use of the word "experiencing" removes the threat of not being in line with affective or cognitive focus of the test user; however, the question still requires a cognitive process that may be premature.
What is it? What's happening?	More informal and more neutral than the previous two statements, and so likely to give the user more room to continue to use the system and give feedback when ready.
You're frowning...	Offers information from an external source that may assist the user to increase their self-awareness. However, this may also be presumptuous, and the user may argue against it.
You're wrinkling your brow.	More observational and less processed than the previous statement. However, the user may feel exposed.
Something's up, eh?	If said with emotive tone and force that's similar to what the user is displaying, this statement may assist the user in staying with their experience and feeling invited to express it in their own time.
Nothing...	Something may eventuate. If not, and the moment is lost and the user becomes involved with another aspect of the system, then a pause may be used for reflection, or the user may be invited to back up.

Table 3.1.: Possible effects on user by different interventions by Carter (2007)

of the responses:

Repetition within and across interviews

If ideas, concerns, beliefs or issues are repeated several times throughout a situated co-inquiry then they are more relevant than less or non repeated ones. In addition, the same rule applies if repetition coincides throughout several interviews, especially from different participants but expressed independently.

Levels and nature of affect

Actions arising from non-verbal communication like facial expression, body language, gesticulation or paralinguistic (voice quality, rate, pitch and volume) and prosodic features (rhythm, intonation and stress) increase the significance.

Historical explanations, descriptions, and interpretations

Current behaviours and attitudes based on, affected by or justified by happenings from the past are meaningful.

Explicit and implicit interpretations

Ideas and activities have a meaning which can be inferred through either direct

and obvious or implied and metaphoric (inter-) connections.

Serendipity

Unexpected/unforeseen ideas, behaviours, thoughts and expressions not published in or covered by current or past research are significant as they form the opportunity for future research.

Additionally, findings of each iteration step were processed, combined and reused in the next interview iteration to refine and improve the quality of findings.

4. Analysis

The first section (4.1) of this chapter provides a review of RH2 based on game flow. Section 4.2 provides a classification of the participants in this research, followed by findings from the situated co-inquiry in section 4.3.

4.1. Review

This review was conducted by the researcher (s. section 3.1). It was based on game flow and its criteria for each element it is assembled of (s. section 2.3). The main purpose of conducting this review was to determine the implementation of game flow in RH2 and compare RH2 with traditional games. The review was completed before collecting data from situated co-inquiry.

The first subsection (4.1.1) presents some screenshots and a description of RH2. It is followed by a detailed analysis of each game flow element with regards to RH2. Eventually, the findings are summarised in subsection 4.1.10.

4.1.1. Overview

Figure 4.1 shows the main screen of RH2 after watching the introductory story animation and completing the introductory level. In the top left corner there is the RH2 icon (time clock) with the face of Clippy in it. Underneath it, there are two buttons (back & forward) which can be used to switch between the six different time epochs once they are unlocked. RH2 uses the term ‘level’ rather than time epoch but it violates industry conventions and leads to confusion as further explained hereinafter.

In the middle there is the level selection area. Usually, there are 7–9 levels per time epoch. When hovering over a level with the mouse pointer, a description of the level is presented to the player in a tooltip. Once a level was completed it has a green tick next to it. In addition, it has a yellow plus sign if the level was played without using any hints at all.



Figure 4.1.: Main screen of RH2

For completing levels one gains (experience) points which are presented in the top right corner underneath the orange bar. The number on the right hand side of the bar shows the required points to unlock the next time epoch. Once one collects enough points (full bar) RH2 automatically raises the skill level, shows a story telling animation and switches to the next time epoch afterwards.

Beyond that, the controls in the bottom right corner (from left to right) allow players to post feedback about RH2, get further information or reset the score in the about dialogue and to turn on/off music and sound effects.

While playing a level the screen usually looks like presented in Figure 4.2. Usually all controls and Ribbons are placed at the top. The rest of the window is divided by RH2 into two parts.

On the left, there is the document (Word, Excel, PowerPoint or OneNote) one will be performing on the task assigned to this level. Moreover, an image that contains the tasks and examples of diagrams, etc. are embedded into the document itself. RH2 uses the term ‘instruction’ rather than ‘task’ but avoid further confusion when talking about RH2’s hint system, the term ‘task’ is used instead. Beyond that, the document contains some text or data and usually RH2 presents some additional information (bubble next to RH2 icon) related to the time epoch one is currently in.

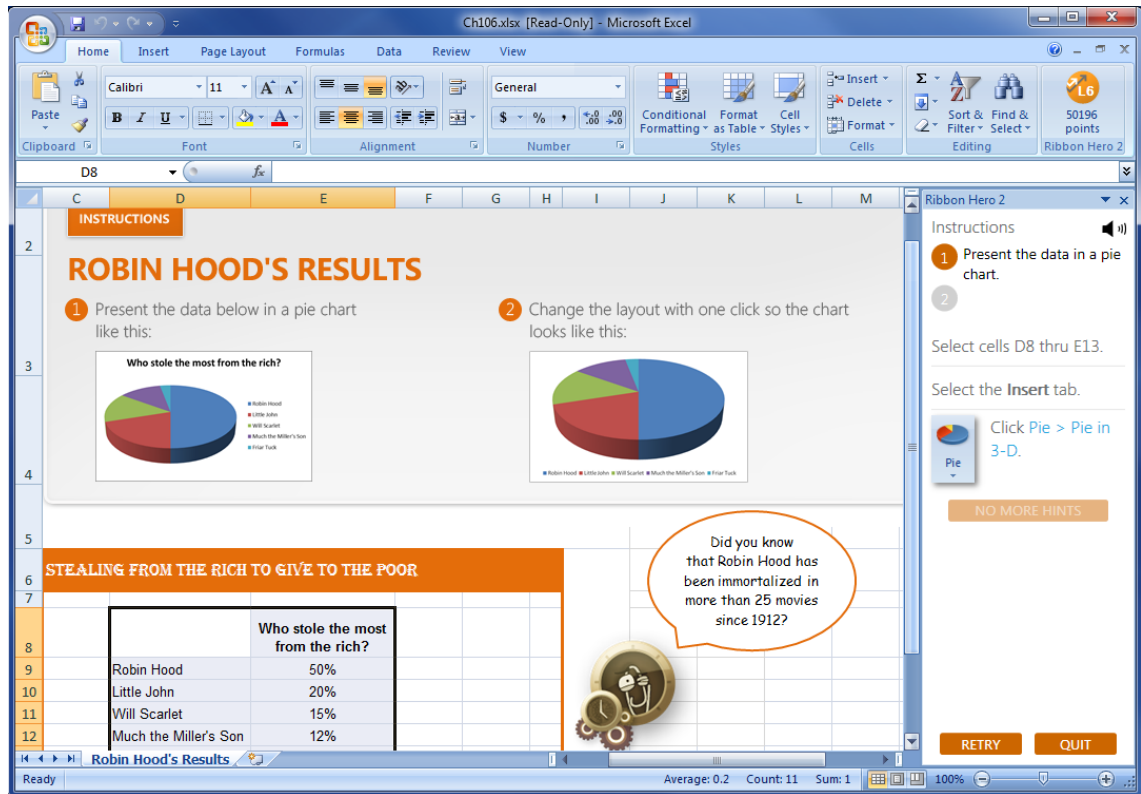


Figure 4.2.: Example level of RH2

On the right, there is the RH2 level menu. It contains a list of tasks underneath the “Instructions” heading and a few buttons to mute sound effects, ask for a hint (“Need a hint?”-button, greyed out as all hints were requested) and “Retry” or “Quit” the level. By clicking on the “Need a hint?”-button a player can unlock hints. Usually, there are 2–3 hints per task which one can only unlock one after another if more details are required. The hints contain detailed step-by-step instructions that describe what the player needs to do to complete the level or current task successfully. Furthermore, the last hint presents a short animation when hovered over it that shows where to find certain Ribbon groups and its buttons.

All in all, RH2 does not consist of too many game mechanics except the way of storytelling, the point rating system with hints and the selection of time epochs and its levels. Therefore, an average computer or MS Office user or casual players will be able to understand and play the game.

4.1.2. Concentration

RH2 provides many activities that are worthwhile to concentrate on as they can be very useful in a real life working environment even though the provided tasks might represent only a fraction of what is required at work, i.e. a combination of tasks from RH2 represent a real world task. If that kind of knowledge is important or one

enjoys learning about many aspects of Office, then the game grabs one's attention and draws one into the game. Based on one's skill set and experience in using MS Office, RH2 requires many different skills to cope with an activity or task so that all attentiveness and energy is devoted to the game and fulfilling those tasks.

To get players' attention the game provides stimuli from different sources like audio (music and sound effects to indicate success) and video (story comic and in-game graphics). However, the music is lacking variety so that it can become annoying after a while. Traditional games offer a wider range of music which is adapted to the different stages and changes with one's progress in the game.

To foster players' concentration the game does not interfere with one's actions except a subtle reminder to ask for hints if one gets stuck. Though, the hint system itself can burden the player with steps that are not relevant for learning, mastery or even the game's point rating system. For instance, hints often provide trivial information like "Select the Home-Ribbon" although it is selected already and disturb flow thereby. Moreover, there is no difference in how many bonus points one gets based on asking for one hint or for all available hints. In other words, being forced to unlock one hint after another is redundant since one has to re-play the whole task anyway to get the bonus points. It is all or nothing! Offering the player the complete solution in one click might be less disrupting under given circumstances. Beyond that RH2 allows one to focus on the task at hand.

Another difference compared to traditional games is that RH2 does not run in full screen mode. Thus, there is a higher chance of getting distracted either by other programs already running in the background or by running up other applications as one is tempted to do so because it is only 'one click away'. In general, however, this behaviour represents real world use of several programs at the same time. And all in all, the workload is appropriate for the perceptual, cognitive and memory limits.

4.1.3. Challenge

All in all, the challenge is appropriate. Certainly, it depends on one's experience using MS Office but an average user will definitely learn more about new or unknown functionalities. Nevertheless, inexperienced users or players, i.e. people who have not used a computer before and neither understand the basic concepts of how to interact with computers, for instance selecting text, are less likely to be able to play RH2.

A common simple way to provide an appropriate challenge for different players is by allowing the adjustment of difficulty levels or automatically adapting to the player. In RH2 there are no difficulty levels at all. The only way one can increase the difficulty level is by not using any hints which is rewarded with more points (high

score).

In the beginning RH2 confronts the player with simple tasks that can be seen as a repetition of basic (MS) Office knowledge. Although later tasks are rewarded with more (bonus) points they are not necessarily more difficult. In almost all cases those tasks just target lesser known functionalities, i.e. level of challenge increases only indirectly as players progress through the game. As there is no time factor both the rate and the pace of challenge depend on a player. Unfortunately, the tasks are all static, thus, re-playing tasks or the whole game is only for the purpose of repetition or achieving a higher score.

4.1.4. Player Skills

There are two aspects of player skills with regard to RH2. On the one hand, the game's purpose is to increase player (user) skills by facilitating exploration of MS Office capabilities. On the other hand, the game supports skill development with regard to the game as such, that is, its game mechanics and how they work.

As the game mechanics are quite simple an average user should understand how to interact with the game as such and how to play it without reading a manual. The same applies to gamers as they are used to all kinds of game mechanics. Nevertheless, the game should contain an option to learn about those game mechanics and its functionality as inexperienced computer or MS Office users might not be familiar with the concept of point rating systems for instance. Others might not grasp all details about an implementation of such a point rating system, e.g. using different amounts of hints does not equate with the reduction of bonus points. Thus, in those cases RH2 will only add an extra layer of complexity. Beyond that learning about the game (mechanics) is part of the fun and does not bore the player but draws one's attention into the game.

If a player gets stuck RH2 tries to interfere, that is, catch the error by presenting a 'wrong path' dialogue (s. Figure 4.3) with a hint to support skill development as fast as possible. Beyond that, one can access Office's built-in help system, too, but most often there is no need to do that as RH2 itself provides everything one needs to solve the presented tasks. However, even though there is an introductory level, it does not show the same characteristics as seen in industry standard games, i.e. there is no help or detailed information for certain game mechanics of MS Office's Ribbon UI. For instance, there is no level that explains basic functions such as selecting elements like text, table cells, etc. and more importantly, the context sensitive feature of the Ribbon UI and its structure are not communicated well enough if at all.

Player skills increase fast but at an appropriate pace since there is no time factor and

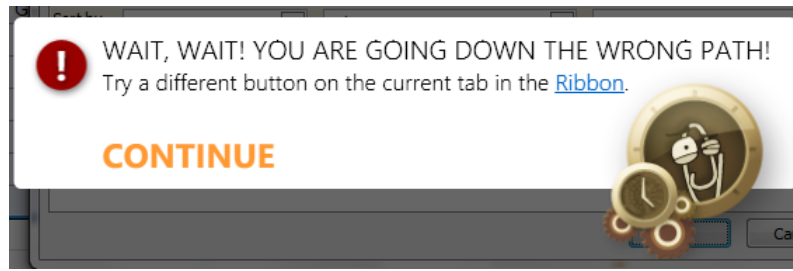


Figure 4.3.: Wrong path

oneself determines the speed of play. If levels are played with no hints at all, player skills should increase even faster. In such cases one discovers new functionalities and gets used to the Ribbon interface and its structure by oneself unless given tasks represent repetition or testing of previous knowledge and experience with MS Office. In this case it is the later levels that target less known and less used but still very useful (MS) Office functions. These add valuable knowledge to the players' skills. Moreover, RH2 covers a wide range of Office applications (Word, Excel, PowerPoint and OneNote) but most users only know and use a limited subset of the former presented list. Therefore, it is very unlikely that a user already knows everything which would result in boredom.

Ongoing commitment, dedication, ambitiousness and skill development are rewarded through game progress and a point rating system. While game progress results in use of unknown but useful features the rewards (points) increase with each level in order to keep one motivated. For an average user skill development is rewarded appropriately by the point rating system. Others, however, might notice that later challenges are not more sophisticated although they appear to be harder to solve but that is often just a side-effect of the unfamiliarity with the functionality and its potential application.

4.1.5. Control

In general, one feels a sense of control over the game (mechanics). RH2 only interferes with players' actions if it tries to prevent one from choosing the wrong path, upon successful user actions that count towards the challenge or if it is presenting the narrative. Beyond that there is no such thing like an avatar in the game.

The game interface is simple and input devices like mouse or keyboard are supported in a way one is used to. Moreover, the few buttons shown on the main screen or the side bar do what they are intended for. Loading or closing RH2 means also starting or stopping the game and saving or loading one's progress (savegame) happens implicit without requiring any further user interaction. However, only fully completed challenges are tracked so that one has to repeat a challenge if it was

aborted. Other standard actions are not supported or required, e.g. pausing the game is not possible neither is it required as there is no such thing as the concept of time in RH2 except the game story (time travel).

Unfortunately, one can make errors that are detrimental to the game even though one also gets support to recover from certain errors. For instance, it is possible to put the document into unrecoverable state by performing too many actions that are not required. Moreover, as the length of the undo list is limited, one cannot go back at some point. Another example is by performing required steps out of order, it might not be possible to complete a level as subsequent steps often rely on a certain state from the previous step. In the best case the “wrong path” dialogue helps to recover from wrong decisions. However, its behaviour is inconsistent. Sometimes the dialogue comes up although, technically, one is not on the wrong path but just not on the optimal path in terms of time or ‘number of required clicks’ efficiency.

Beyond the former mentioned architectural design issues, the game has several other bugs, e.g. changing the SmartArt Styles to something not requested by the instructions works without errors. Moreover, it even counts towards fulfilling the challenge. Even though this behaviour might be right in a broader sense as the idea is about understanding the concept behind solving certain problems using a certain approach, it often leads to confusion.

The last but not least aspect of this game flow element is feeling a sense of control of and impact on RH2’s game world. In a broader sense this is true as the game remembers completed challenges and marks these with a tick. Beyond that, there is no control over the game world whatsoever. Moreover, it often feels like one is forced to follow certain strategies. Otherwise one is faced with the “wrong path” dialogue, even though it might be possible to complete the required task using a different approach. For instance, it is a valid approach to right-click an element in order to change its characteristics through a sub-menu. If, however, the game flags this as the ‘wrong path’ but one completes the task anyway using this ‘wrong path’, RH2 will not count this task as completed. Instead, the game only focuses on the “simplest” approach which is interpreted as using the Ribbons, thereby minimising the number of clicks thereby.

4.1.6. Clear Goals

The overall goal is presented in the beginning of the game: “Help Clippy!” The presentation form is a comic which is simple to follow and easy to understand. Clippy time travels through different periods of human history and needs help with solving task in MS Office. Although the message to help Clippy is clear as such and

matches the introductory level, one is left wondering how time travel fits into the concept of helping somebody (Clippy) with (MS) Office. The story might be sound as a metaphor for (re-)discovery but it is not well connected with the overall goal (theme) and this connection might not be as clear to all players either.

Usually, intermediate goals are presented step by step in the task list on the right hand side as one progresses through each level. The list shows the current objective and a history of the completed ones. However, each level also contains an task list and an example of the desired outcome (graphic) embedded into the document that one is working on. That causes confusion and allows altering the order of execution which can lead to a surprising behaviour of the game (task list) as demonstrated in Figure 4.4.

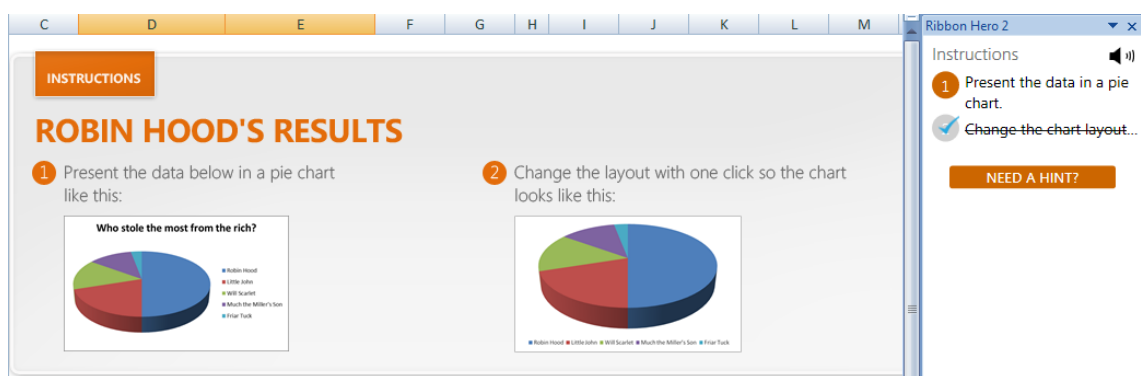


Figure 4.4.: Out of order execution of tasks

The instructions themselves do not always seem to be clear and often hide important details in the hints. Moreover, sometimes performed actions let one score for completing a task if the basic operation fits the purpose. For instance, the task is something along the lines of ‘change the font for the entire document’ but only the hint contains details like the name of the font. However, as long as one performs the action of changing the font one will successfully complete the actual task.

All in all, the task descriptions are actually good enough to understand basic concepts but beginners and intermediate players might be confused by the lack of details in those descriptions.

4.1.7. Feedback

Immediate feedback is provided on all user actions in different ways which are described as follows:

1. changes applied to the document are directly visible one way or other and

2. the game either confirms or denies users' actions if it is going really well or really bad, i.e. one finishes a (sub-)task successfully or one is faced with a "[...] wrong path" dialogue.

Unfortunately, the in-game feedback behaviour as described in the second point appears to be inconsistent as it sometimes does inform one quite early about taking the wrong path whereas in many other cases one wishes to be informed earlier for choosing the wrong path. Nevertheless, the 'wrong path' dialogue as such contains useful information on how to move into the right direction.

In general, feedback reflects progress towards (intermediate) goals. The task list showing the completed and the current tasks allows players to estimate the effort required to complete the current level. Moreover, the successful completion of a task is rewarded with a sound and a balloon animation. The progress then is also reflected in unlocking the next task and crossing out the last completed task from the task list. Except in very few cases, however, the score is not visible while working on a challenge and the effects on the high score (bonus points) are not clear when using at least one or more hints. Moreover, there are no nuances in using different amounts of hints. Players who realise this are then tempted to unlock all hints at once, especially as the unlocked hints often provide irrelevant advices.

As the game is divided into six time epochs, global progress (per time epoch) is indicated with a progress bar in the top right corner. The progress bar reflects one's own skill level (experience points) as sometimes it is not enough to just complete each level in order to advance to the next time epoch. When all hints are used the collected points are simply not enough to advance to the next time epoch and the player has to re-play levels to gain sufficient bonus points.

Once a level is completed a green tick appears next to the level (main screen) and a yellow plus sign indicates the completion with all bonus points. In other words, the game provides appropriate feedback concerning the selection of next or (partially) finished levels. Moreover, the minimum experience points required to advance to the next time epoch is clearly visible in the top right corner of the main screen.

4.1.8. Immersion

While playing RH2 one can definitely become less aware of one's own surroundings, especially if one is focused on achieving the highest score by collecting all bonus points and completing all tasks (in a self-determined time). Being rewarded for getting it right is very encouraging and provides a good feeling of being productive which might not be true in a working environment on certain days. Furthermore, one feels emotionally involved in the game, especially in the beginning of the story,

but only if one knows Clippy from previous versions of Office.

Conversely, somebody who does not know Clippy from older version of MS Office will definitely struggle understanding the story and the role of Clippy. However, the rest of the story should be comprehensible. Beyond that, the only drawback noticed while playing is the missing full screen mode that can lead to disruption of flow since the time is shown in the task bar at all times and many applications run in the background which might interfere.

4.1.9. Social Interaction

All in all, RH2 does not implement this game flow element which represents a missing an opportunity. Given RH2's point rating system, at least a simple form of competition could be supported by introducing (online) high score tables. Cooperation could be encouraged by increasing one's score if players participate in discussions through RH2's official forums.

After completing the game one gets the opportunity to send an email to somebody including a link to the game's website. If one could add a photo of one's own high score, this would encourage other people not only to try out RH2 but also do better which would be reflected through the high score. Other options would include the integration of social networks like Facebook and Twitter or a specialised system to track achievements so that it would be possible to compare one's results with those from family and friends or global statistics. Other types of social communities already exist, for instance RH2's online forum¹.

Yet, the current implementation of the point rating system can hardly be considered to facilitate competition. It is way to easy to achieve the highest score as one can go back any time and repeat certain challenges as often as required. A more sophisticated point rating system would attribute a bigger importance to the achieved score but might be debatable as with all systems that try to quantify intelligence, knowledge or skills. In reality, however, most if not all games implement a point rating system as highlighted by game flow.

4.1.10. Summary

Many bugs and Ribbon-centric game play restrain flow or optimal experience. Especially bugs are critical in the context of a help system as its consequences fall back onto the user. Thus, some users might blame themselves as being incapable of completing certain tasks (with this program) while others might simply blame

¹<http://ribbonhero.com/forum.html>

RH2 and MS Office. While the latter one might lead customers to lose confidence in MS Office, the latter argument is diametrically opposed to the original idea of simplifying learning and mastery of software applications through a gamified help system.

Game-Flow Element	RH2
Concentration	✓
Challenge	✓
Player Skills	✓
Control	✓
Clear Goals	✓
Feedback	✓
Immersion	✓
Social Interaction	✗

Table 4.1.: Summary of Game Flow implementation in RH2

Table 4.1 summarises the implementation of game flow elements in RH2. However, as pointed out before, most elements lack some implementation details to meet all criteria for each element. In conclusion, based on game flow RH2 cannot be seen as a full featured game due to the herein described drawbacks as well as the missing game flow element of social interaction.

4.2. User classification

In tribute to the pioneers of computer and information science counting, the participants of this research starts with zero. The participant in the pilot run is “participant 0”.

4.2.1. Application Model

As highlighted in Table 4.2, most participants belonged to the multimedia group, i.e. they were interested in consuming audio and video. Only participant 5 showed an exceptional interest in all things web. However, all participants had one thing in common as indicated by the *-symbol. In some way or other, all participants relied on using a computer and different programs at work but nobody limited the use to only this one use case.

Beyond that, this model did not provide significant insights as it based on computer use in households but most participants use MS Office only at work.

Type	Participants					
	0	1	2	3	4	5
web-oriented						✓
instant messaging						
games						
multimedia	✓	✓	✓	✓	✓	
serious	*	*	*	*	*	*

Table 4.2.: Participant classification based on application model

4.2.2. Player Model

Table 4.3 assigns each participant to player types as provided by the DGD typology (s. subsection 2.4.2). While most other participants were mostly interested in new experiences, participants 4 and 5 clearly showed the desire to master RH2. Though, there was a big difference between the two. While participant 4 used a systematic problem solving approach towards all goals and thereby aimed at mastery of RH2, participant 5 mainly focused on learning new things through repetition, that is, most of the time re-playing everything at least once. Beyond that, participants 1 and 2 developed a stronger desire to win and thereby learn and master RH2 on their own over the course of the situated co-inquiry.

Type	Participants					
	0	1	2	3	4	5
Conqueror		✓	✓		✓	
Manager					✓	✓
Wanderer	✓	✓	✓	✓		✓
Participant						

Table 4.3.: Participant classification based on player model

RH2 is a fairly new and unknown program. Therefore, participants neither heard about nor played RH2 before. Moreover, no participant was playing and talking about other games on a regular basis and participating in social communities based around a game, either. Thus, all participants were considered as casual players.

Even though the situated co-inquiry was not about performance, there seems to be certain patterns that appear based on certain player type constellations. Moreover, participants that were classified as wanderer tend to always play with hints. In other words, they were less likely to even try playing without hints unless they were classified as conqueror as well. As described in subsection 2.4.2, conquerors were very competitive and therefore challenged themselves even though one can re-play a level to gain all bonus points. Furthermore, participants who were classified as the manager type had a more systematic discovery or problem solving approach and

recognised value from the context sensitive Ribbon UI, sometimes more, sometimes less.

4.2.3. Learning Model

The data presented in this subsection is not based on observations but participants' statements. All in all, the learning approach as noticed by Rieman (1996) did not hold true, at least with the group of participants in this research. Nobody was purely relying on the program manual. Basically, all participants searched the World Wide Web (www) instead. Participant 2 basically used the original learning approach but with the former mentioned modification highlighted as follows:

1. trial and error
2. ask somebody
3. search www

That is, the last option was replaced with using the internet to perform a Google search as opposed to reading the manual as originally noticed by Rieman (1996).

All other participants basically used an approach as follows:

1. trial and error
2. search www
3. ask somebody

The order of options changed, i.e. options 2 and 3 swapped places. Participants 4 and 5 additionally used the built-in help system in combination with searching the www.

Participant 0 and 1, however, used a pattern as follows:

1. try & error
2. ask somebody
3. try harder
4. search www

Before browsing the www, these participants went back to "try & error". The main motivation for this behaviour seemed to be the desire to learn on one's own.

4.3. Situated Co-Inquiry

In this section the findings about RH2 are presented that were collected by means of the situated co-inquiry carried out with 6 participants. The findings cover problems and shortcomings with the implementation of RH2 and its effects on the participants like learning outcome. Moreover, the findings show the potential and drawbacks of applying gamification to helps system in particular and information systems in general.

4.3.1. User Interface

In the following, findings about the user interface are covered with regards to RH2's (introductory) level, task lists and the Ribbon interface. As pointed out in the review (s. subsection 4.1.4 & subsection 4.1.5) RH2 has a simple user interface with only few buttons and mechanics as opposed to Office programs. Yet, any user interface should be explained to the user, no matter how simple it is as past experience with computers and influence from similar programs might vary considerably. Thus, it was not surprising that all participants experienced problems with RH2's UI. Moreover, it seems that RH2 does not really help the player or user to understand the context sensitive behaviour of the Ribbon based UI as this feature is not explained to the player at any stage.

Straight from the beginning some participants were confused by the automatic horizontal slider in the introductory comic. In particular, the speed of the comic animation is "a little slow" (participant 0) so that most participants were wondering whether "there [is] another way to make it faster?" (participant 3). "Ok, is like a cartoon. Do I need to do something?!" (participant 5). For instance, one participant stated not until almost two minutes of play: "Can I go ahead? Yes! Ah, I can go ahead, ok, sorry, I didn't understood that I could go, before" (participant 1). More importantly, when being asked "what the comic tries to tell [one]" (researcher) one participant answered "not really" (participant 2). It seems the story and therefore the main goal of the game was not clear to most participants (contrary to the researcher's assumption/review) even though the majority recognised Clippy from previous versions of Office. Only one out of six participants understood the introduction. The majority was not interested and just skipped ahead: "usually I don't read too many words. [...] I should read, but I never like the comic" (participant 5). Shortly after they were left wondering: "that's probably wrong. Probably, I should have waited for the end of the story" (participant 0).

Another big drawback is related to RH2's hints. There is often a language mismatch between the provided hints (description) and MS Office's UI language. As a result,

all participants experienced problems finding what they were searching for because the instructions referenced a UI element with a different name than specified in the hints. For instance, when the task was related to working with ‘slides’ one participant said: “thumbnail, for me, it’s misleading because I was looking for something called thumbnail as usually they use words that you can find on the various category tabs or buttons, if they say something usually you can find the right word so I was looking for some, the name that was telling me thumbnail” (participant 0). The previous example was the result of a naming mismatch between ‘thumbnail’ and ‘slide’. Moreover, the hints often do not clearly communicate the menu structure and which Ribbon to use. This means that either the order of menu names is upside down and therefore indicates a different menu hierarchy or names of UI elements are not clearly highlighted as such in the description text. For instance, RH2 uses one font to display the following description text: “Change the chart layout with one click.” The important bit of information is “chart layout” which corresponds with the name of Ribbon group as highlighted Figure 4.5.



Figure 4.5.: Instruction vs UI structure

All in all, the missing user introduction to the UI as well as language mismatches between hints and the UI create additional obstacles to the users in solving the required tasks. This is funny and sad at the same moment as RH2 tries to ease understanding, learning and mastering some Office functionality but fails to do so for itself.

4.3.2. Error-prone Learning

As highlighted in the review (s. subsection 4.1.5) or the preceding subsection RH2 has several bugs. Some of these bugs yield false positives or negatives as the result of user actions. Figure 4.6 shows an example for a false positive as experienced by most participants. The next instruction requires the player to change the colour of the graph that is “add colorful accent colors”. Inspired by the embedded graphic (not visible in the screenshot) that serves as an example, participant 1 said: “I assume I have to do it like what’s in the example.” However, in fact it does not matter at all which colours are applied to the graph. RH2 just tracks whether the player performs the action of adding some colour to the graph. If the produced graph does not match the requirements but one wins anyway players are irritated only a little at best and just move on: “it doesn’t quite match so it feels like it’s not quite right. Anyway!” (participant 4) However, it was visible that participants were not satisfied with the results. For instance, participant 2 clearly stated: “Well, it says I did it but I don’t quite understand.” “Yap, I really don’t know what I did in here [...]” (participant 0 after completing a task successfully).

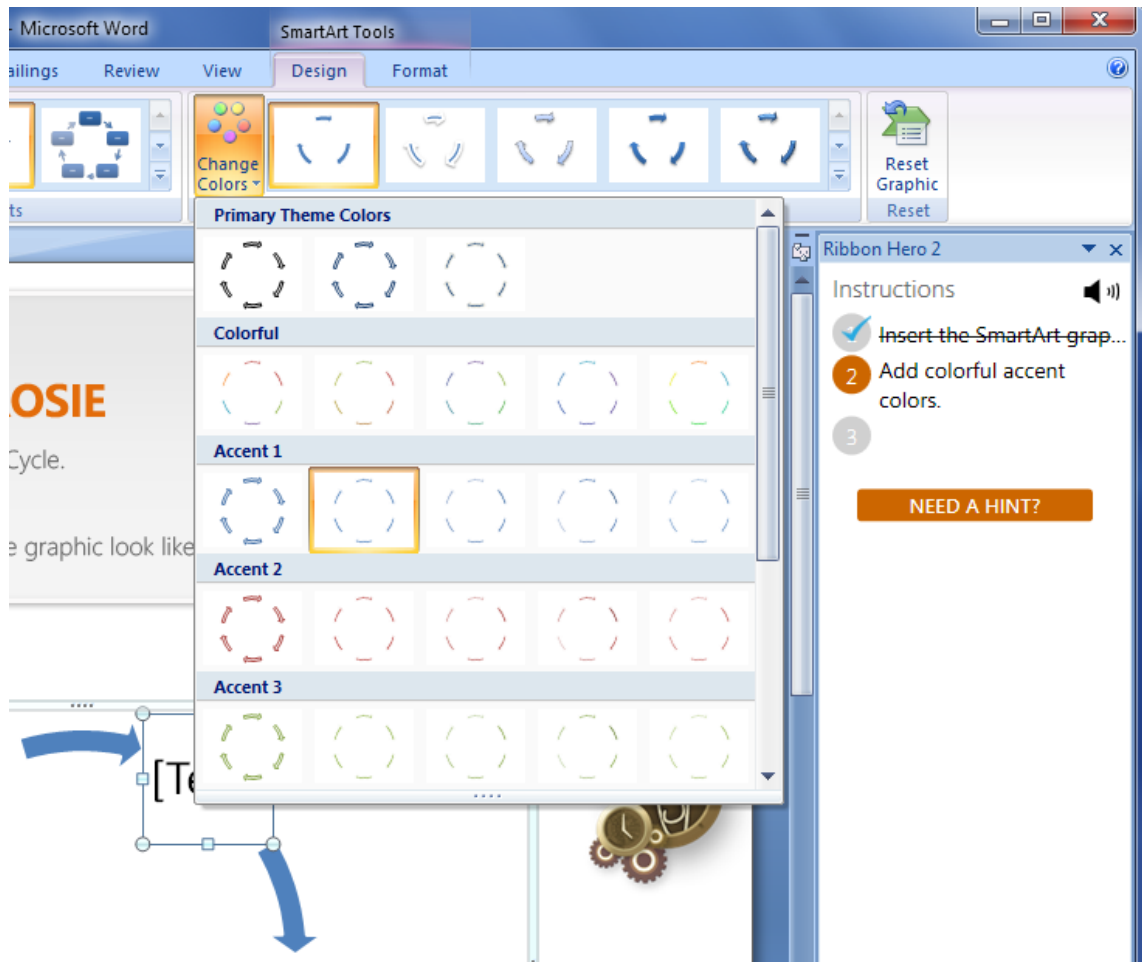


Figure 4.6.: False positive

A scenario for a false negative is highlighted as follows. The instruction says “sort the remaining rows by song title” (Figure 4.7). The easiest approach is a one-click solution by using the appropriate button from the “Sort & Filter” Ribbon. But the Ribbon also contains a big “Sort” button which most participants clicked first as it is an eye catcher and also because most participants are only skimming text instructions. For instance, participant 5 mentally translated instructions as follows: “[...] sort A to Z, where is sort? Data tab, click sort, sort, here, no, something wrong.” But in this case the hint text actually reads “Click Sort A to Z” and contains a small icon of the correct button next to hint. The big “Sort”-button normally (that is when

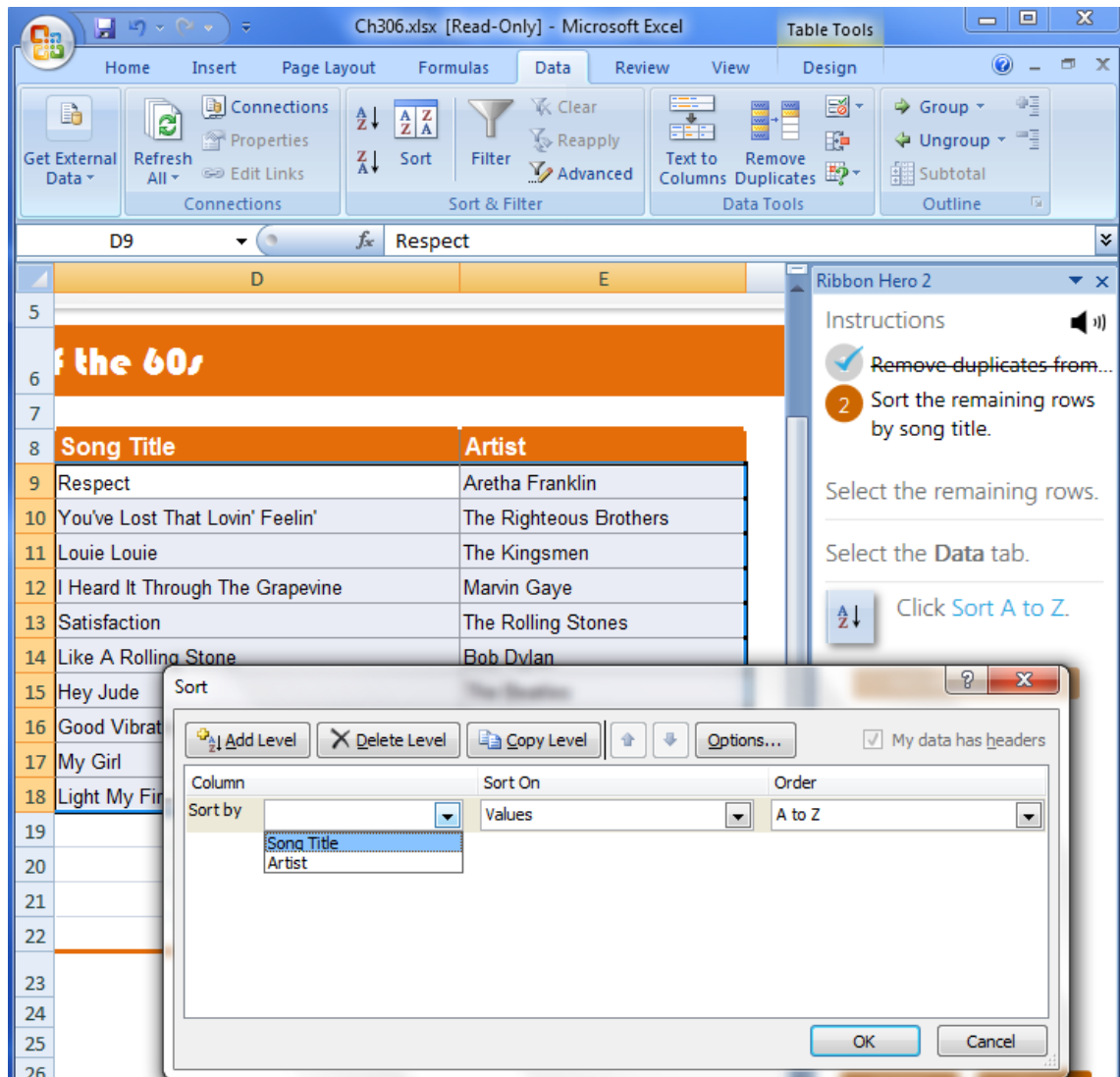


Figure 4.7.: False negative

not playing RH2) opens a dialogue as shown in Figure 4.7 which offers all kinds of sorting options based on different criteria including sorting “A to Z”. Nevertheless, RH2 interferes in this case and displays an error message as shown in Figure 4.8. The problem with this error dialogue is that it does not prevent the options dialogue which still gets displayed to the player. Where some participants barely notice the options dialogue and rush to close it others, especially those who know that it is

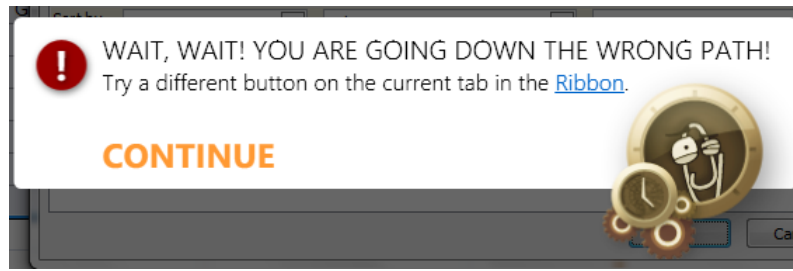


Figure 4.8.: Wrong path

possible to do it that way, get confused as RH2 does not count the task as completed. Then they blame themselves, sometimes even using a wrong explanation: “I did it the other way around because the asked for the ascending but I did the descending” (participant 2).

In general, the attitude towards the game changes instantly once a bug is recognised as such by players. In the first place, it increases the level of awareness with regard to the possibility of bugs. Furthermore, the game is not considered as very sophisticated if certain bugs or inconsistencies continue to appear throughout other levels of the game. For example, participant 0 stated: “If it would be a little bit more serious, it probably, would give me an idea that is had more potential, this software.” Moreover, it seems that participants who do not see the point in gaming even tend to see RH2 as not trustworthy: “I think it’s just to show the potential of the program rather than to really learn how to use it [...]” (participant 0).

The biggest impact, nonetheless, appears if bugs are not recognized as such by users and lead to a game state where players cannot win and cannot recover from the situation either. In such cases the effects on the user can be considered harmful since participants felt incompetent because of being unable to understand, learn and implement the game tasks in the right manner. For instance, participant 5 said “hmm, ok, something happened” but was not sure about what exactly happened and continued as follows: “[...] I thought, I wasn’t, I was not sure, I look like retarded.” Other participants fall back into a defensive approach that is trying to hide their lack of knowledge with face-savers like “definitely it’ll take me time because I am not familiar with this. I have to read properly, maybe.” (participant 3)

4.3.3. Point Rating System

RH2 is a simple game that uses simple implementations of game mechanics as opposed to full-blown games like World of Warcraft by Blizzard Entertainment², Ac-

²<http://us.battle.net/wow/en/>

tivision's Call of Duty³ or Farmville by Zynga⁴; just to name a few of the recently more popular games. As mentioned in subsection 4.1.9 RH2 implements a simple, not very sophisticated point rating system compared to other games like the ones mentioned above. As expected, participants noticed the lack of proper point rating system as well.

In general, for many participants the sheer existence of a point rating system was the decisive factor to call RH2 a game, e.g.: "Hmm, the points lead me to think it's a game" (participant 4). Although all participants noticed the points they gained after completing each task nobody was able to explain what the points are used for or how the point rating system works, e.g. participant 1: "[...] I'm not interested in the points. I don't even know what the points are supposed to mean." They simply were left wondering what the purpose is in collecting all points. Thus, some of them lost interest in achieving a high score by playing the game without using hints. In addition, as the meaningfulness of points is not communicated in a clear way, it blurred participants' first impression that RH2 is a full featured game as participant 4 pointed out at the end of the interview: "I think potentially with having those points building up, I'd think that you could use those points for something or it'll be on something like a ranking chart. And that's when I think it would be more of a game to me."

To improve the point rating system some participants suggested taking the time factor into account. It seems that this type of game creates such an expectation, e.g. participant 1 asked: "are there, like points for the time to finish the game?" Even the music, especially the rhythms, and graphics convey the impression that timing is important somehow: "I wanted to see if there's like, time pass, because from it seems that (clicks several times on the arrows in the top left corner) something with the clock, with, and this music, tiin-tin always, seems that the rhythm is like the time is passing, ready to go."

Beyond that the existence of a point rating system literally asks for a proper supported (online) high score table. Participants mentioned that they would be more motivated to go after all bonus points if the high score would provide a measure to compare one's skills and progress with other players of the game. Thus, the element social interaction matters a lot and is obviously missing in RH2. However, participants are worried about their privacy that is participants would publish their results "if it was done anonymously, absolutely, yeah" (participant 4).

Furthermore, the point rating system needs to be more sophisticated to create fair competition as explained by participant 4: "I think that it'd be quite nice to sort of see where you come on, you know, we've had a thousand people who have done this."

³<http://www.callofduty.com/>

⁴<http://www.farmville.com/>

The average person has done it in this kind of level and got to this kind of points level. That times by the time value equals ‘boom’. Damn it, could have done that better or whatever. . .” But for that the current implementation is just not game-like enough: “[...] the thing that I can go and do it again, maybe de-motivates a little bit, me, because, I want, like more challenging, when you get it wrong it’s wrong, you know, like in the games! You have to start at the beginning [...], like more challenging. So, you can also like, ermm, play against someone else, well, against like let’s see who gets more points, no? But if you can [replay] every time, it’s not that fun. It’s like when you do an exam and already know the answers. [...] Yeah, with the points, I think, it’s, ermm, a value that you can, ermm, compare to, for example if I play another time and I see how many points I reach but there’s the factor that I could have used the hints or retry and so it’s not like very comparable.” (participant 1).

All in all, the findings show that RH2’s current implementation of a point rating system is not sophisticated enough. In the first place, RH2 fails to explain the mechanics around the point rating system. In the long run, the point rating system is not motivational enough and does not create a fair fair competition.

4.3.4. Serious Play & Learning with Fun

The consensus regarding the purpose of RH2 is learning how to efficiently use Office by picking up some tips and tricks and discover new functionality. Furthermore, from observing participants it seems that everybody enjoyed playing RH2 as highlighted in Figure 4.9 even though some stated that they are not necessarily motivated to play the game, at least not without having the goal to learn or master the Office suite. Achieving (sub-) goals and hearing sounds and music effects that are triggered on

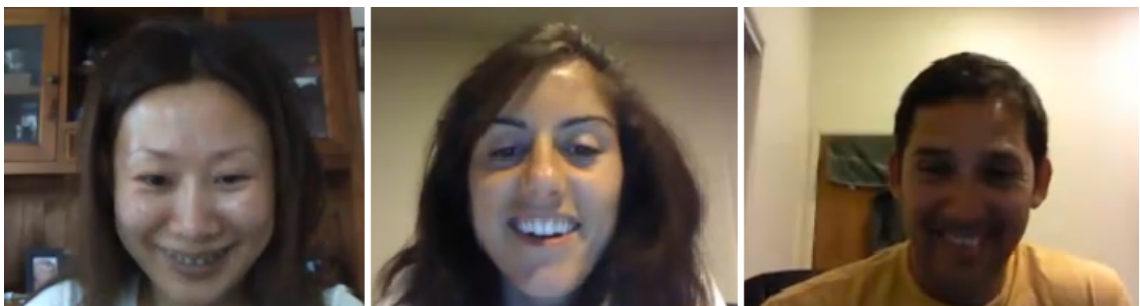


Figure 4.9.: Participants’ facial expressions after being successful

success kept most participants motivated so that many of them wanted to continue playing even though the time was up.

Although participants enjoyed this way of learning most of them would not use RH2 in a working environment. The most common argument against this type of learning

is that play is not socially accepted in such an environment and thus it would be hard to explain to colleagues or the boss. For instance, participant 0 answered the question “would you play that game at work?” as follows: “At work (surprised)? No! (laughing) No, I think I couldn’t. [...] I don’t feel like playing is right at work.” Moreover, this participant confirmed the statement “[...] that [his] boss won’t tolerate that [he] played” (researcher). In other words, there is some fear of being misunderstood when playing computer games to learn something if all what others see is a game but not the learning effects.

As most participants who stated such an opinion do not play games in their free time, it is very likely that they have not experienced benefits of playing games, such as getting a sensation of flying a aeroplane (e.g. Microsoft Flight Simulator) or building and managing an entire city (e.g. Sim City), etc. Those examples and this research demonstrate that games have some learning effects: “It’s actually quite nice because it’s showing quite a lot of things that you can do with word at the same time as well. Yeah, I like it because it’s showing you what’s possible as well. [...] I did not know that. Well, that’s interesting. No, didn’t know that it can do that, this is news to me” (participant 4). “[...] I’m discovering new things, new things I can do with Office that I didn’t know about like convert hand-writing or do animations which is good” (participant 0).

On the other hand qualifying and quantifying learning effects is a wide area of research. In the same way one could argue that reading in a working environment does not raise learning effects related to work requirements as perceived by others. Thus, this consensus of opinion might just be a reflection of this particular participant group sample. Nevertheless, this attitude might reflect what the majority of society thinks about games, especially older or non-literate people who did not grow up with computers, computer games or other forms of IT.

4.3.5. User-Researcher Interdependency

One of the side-effects of conducting interviews as part of situated co-inquiry is the user-researcher interdependency. To not bias the outcome of such an inquiry users need to form their own opinions and express these without being influenced by the researcher. section 3.2 highlights how to avoid interference but instead trigger certain effects on a participant to unfold users’ experience in the moment of use or play.

In this research, however, certain aspects of the researcher’s impact on the user or participant were even necessary at times, mainly for one reason. RH2 contains many bugs, some of which are unrecoverable. In such situations users just need to

understand that it is not their fault. Moreover, they need to be motivated to move on. Without the researcher sitting alongside the user and drawing him into the cooperative talk aloud approach some user would simply quit playing most likely unless their will to finish something started is superior: “And of course, [because] I want to complete because of you, also” (participant 4). The former statement is only emphasised by the fact that at least half of the participants are not interested in playing games at all. When asked “Do you play games in your free time?” the answers were: “Not really, no!” (participant 0); “Really, as I told you, I never play, never play. I really don’t like it.” (participant 3) And “I don’t know. I have no idea what’s the point” (participant 0). “Probably, I would start and stop it soon after” (participant 0).

Beyond that, based on users rejection or lack of interest for games or game-like systems the idea of using gamification for help systems is somewhat questionable. The player model as used for classification of participants does not cover the ‘non-gamer’ type. Thus, gamification is probably not the ultimate solution but just another option to explore, learn and master programs. Furthermore, the circumstances under which the concept of gamification originated might be faulty, i.e. about 25 years ago the internet and its social networks did not exist. In other words, probably, people were eagerly interested in playing games in the past because they wanted to experience some enjoyment at work. Games just happened to be the most interesting option at that time which could provide such a distraction from work. However, this might not necessarily be true anymore. Further research in this field would be required in order to measure the impact of the increasing internet usage on the validity of and the demand for gamification in general.

5. Discussion

As discussed in section 2.3, the game flow theory is composed of eight elements, each providing a set of criteria. Moreover, its authors tried to map it on the flow theory but, as pointed out in subsection 2.3.1, this is not legitimate. Thus, it is only the name that is similar. Game flow theory is not a superset of the flow theory or vice versa. Even though it turned out to be good evaluation tool for game characteristics it is unsuitable as the single method of choice. This is especially true in the context of learning and mastery of game-like help systems or applications. All in all, the game flow theory is more of a collection of guidelines that combines common game conventions.

Based on the game flow theory a review of RH2 was conducted and uncovered several issues (conceptual as well as technical) with the implementation of the game. In particular, several bugs, inconsistent game behaviour and the lack of social interaction or a proper point rating system disparage the overall (game) experience and need to be addressed in future versions of the game (if there will be any). Especially the implementation of the social interaction element could lead to a more immersive and challenging experience for users.

Later, by utilising a cooperative talk aloud approach with several participants the previous findings were all confirmed and additional issues uncovered. Moreover, the effects of bugs in a learning environment can cause a dramatic impact on motivation and learning outcome, that is, if bugs are not recognised as such users might blame themselves for not being able to understand the problem, implement a solution and learn and master the tools to do so. Thus, if gamification is applied to learning (games) but is not correctly implemented, the results are counter-productive by causing more harm than good. However, despite the flaws all participants had fun playing RH2 and gained the following benefits (s. subsection 4.3.4): They learned some tips & tricks for daily use with regards to mastery. Moreover, participants (re-)discovered new functionalities and hidden or yet unused functionalities. Few participants learned that one should focus on using Ribbons rather than sub-menus to be more efficient with MS Office.

Yet, RH2 could not convince most participants of the advantages one can gain from the context sensitive Ribbon UI but probably that is not the ultimate goal of RH2 in

the first place. In a nutshell, RH2 is not ready for prime time but there is definitely value in gamification of help systems in particular and learning environments in general.

6. Shortcomings

6.1. User Base

Altogether, six people participated in this mainly qualitative research. Such a small group is not enough to statistically show an impact of gamification on learning, motivation and other criteria as mentioned in section 1.3 in such a short time period. However, this is a known side effect of the situated co-inquiry approach which is very time consuming, indeed, but on the other side it often provides (qualitative) in-depth findings which are unexpected. Interviewing more participants while conducting several interviews with each participant over a certain period of time, would have gone beyond the scope of this research. Further research needs to be done with a wider variety of player type constellations, especially including hardcore gamers (s. section 2.4) or the participant type. As to the application model, it probably needs to be replaced with a more work related application model to provide stronger insights.

6.2. Language Barriers

For all six participants English is not the first language and the number of years spent in New Zealand ranges from just a few to about twenty. Beyond that, it is not clear whether participants normally use a localised version of MS Office as no such data was collected. However, so far a localised of RH2 does not exist. As most software is written in English first when intended to be used all over the world, this situation represents the status quo. Therefore, using the English version of MS Office in combination with RH2 was a valid choice overall.

Some participants were obviously confused by certain instructions as highlighted in subsection 4.3.1 but in some cases the main reason for the confusion was a lack of understanding of the English language, i.e. vocabulary or phrasing. A deeper look at past research on language related UI barriers would allow weighting those findings statistically. Furthermore, such an evaluation would provide solutions to already known and fixed problems and filter out problems related to the research goals.

7. Future Work

7.1. Alternative Implementations

The Microsoft Office suite is a widely known and used collection of programs. Moreover, basic knowledge of Office is a requirement in many jobs, nowadays. Therefore, researching gamification by using RH2 was a good starting point in the context of this research. However, there exist other programs like web browsers, etc. which not only are adopted more widely but also are simpler in the functionality that they expose to the user while evolving at a faster pace. Nevertheless, such simple programs are often underestimated in what they have to offer. Thus, they appear to be more appropriate as the main object of study. Moreover, the existence of alternative implementations would allow different types of qualitative and quantitative research, for instance projection of learned mechanics from gamified help systems onto other systems. At the same time, the fast update cycle would serve to study the supporting role of gamification in the transitioning process between different versions.

7.2. Acceptance

As mentioned in section 2.2 gamification is currently gaining momentum but its use is often narrowed down to drive marketing and sales. The concept of gamification, however, is nothing new as such and has already been in use for several years, especially in online Q&A communities like Stack Overflow¹ as pointed out by Atwood (2011), one of its original founders. Other products like Treehouse² or Codecademy³ aim to provide a gamified alternative to learning IT (mainly web development and programming) related knowledge. All of the above mentioned products have in common that they use badges to track progress and serve as motivation to continue learning or helping others. In addition to this, Treehouse allows its users to print a certificate once a course is completed. There are many questions around whether

¹stackoverflow.com

²teamtreehouse.com

³codecademy.com

content learned through this approach would get any recognition by outsiders: are the badges earned in such a system worth anything at all as opposed to a degree? How can one be sure that somebody earned those badges by oneself, etc.?

7.3. Researcher Presence

Subsection 4.3.5 highlights the interdependency between user (player) and researcher. The importance of the researcher sitting alongside the user and draw him into a co-operative talk aloud approach not only allows getting insights into users' cognitive and affective consciousness at play (or use of any artefact, generally speaking) in that moment but often encourages them to continue or, in other words, to not give up too early. This raises the question whether the will to learn and master RH2 in this researcher increases just through non-authoritative supervision.

Moreover, the role of trustfulness and the bond of trust between learner and teacher (human or machine) might be more important than anticipated in context of learning and mastering an information system. Probably, help systems need an equivalent of the ELIZA computer program but instead of emulating a person-centred psychotherapist it would interact with the user in a way similar to that one used in this research (s. section 3.2) to cause different effects on their cognitive and affective consciousness. As the effects of the researcher presence have not been researched in depth before in the context of learning, it represents a knowledge gap in current literature and would require further research in this field.

7.4. Genre

Based on the review in section 4.1 the genre of RH2 can be classified as casual game as it has simple rules and it does not bind the user to long term commitment. Thus, users can play, explore and learn as they like. However, beyond casual games there are many other genres, i.e. action, adventure, role playing, simulation, strategy, etc.

Not every genre might be equally suitable for a gamified help system, though, but different kinds of games could target a broader audience by meeting users' needs and game type preferences. As Office is used by different types of users it is suggested to turn the gamified help system into a role playing game so that users can choose a role that suits them best. Beyond that, a role playing game allows to simulate other roles, thus, offering the user different perspectives on the same subject. Therefore it can be concluded that application of different game genres to gamified help systems is still being explored. The effects of using different genres onto the user experience

are a wide field that will need exploration once gamification of help systems evolves.

7.5. Assessing Learning

Further assessment of the learning impact of a gamified help system will need to have some tool for measuring learning. This of course is a very large and ambitious endeavour that can include better understanding of users' attitude to learning, their need for it and their valuing of it. Also, how they might self-assess their own learning. In addition, a framework could be adopted from existing instruments and applied to this area. Table 7.1 gives an initial framework that might be used in future work.

Factor	Description
Timing	When exactly does learning happen?
Trigger	What leads to learning?
Method	How does learning take place?
Reason	Why does learning happen?

Table 7.1.: Factors for assessing learning

Moreover, with situated co-inquiry as the main methodology, the focus was not to evaluate those factors but highlight their existence and importance in gamified help systems. Therefore, future research should be based on a different methodology, e.g. experimental design or case study, to show the magnitude of gamification on learning. With a proper point rating system and different level design, that is, eventual levels require know-how from previous levels, it is possible to gather that kind of data in-game. Also, learning might improve if building blocks or certain use patterns are re-used throughout the game.

Furthermore, subsection 4.3.2 demonstrated the impact of error-prone learning but not its extent. A literature review on learning methods and its psychological side effects, for instance anxiety from bad experience with learning, could provide statistical or empirical evidence for the importance of such side effects and uncover best practices on how to avoid these. Therefore, non research goal related issues could be further separated out.

7.6. Reflection

I think the focus on discovery of functionalities as implemented in RH2 is a good start to increase learning and mastery but I am not sure about its long term usefulness. Knowing what or that something specific can be achieved with a program

is only a pre-requisite for mastery. Often, it is the combination of actions or certain use patterns that are more interesting. Knowing a particular set of those use patterns and being able to apply them is probably considered as mastery. I think that facilitating that type of learning goes beyond discovery and is more valuable ultimately. I expect that new ground will be broken in how users may learn systems functionality through the use of gamification.

Currently, however, gamification is often added as layer on top of a software product once the development is finished. However, doing so as an afterthought, might not lead to optimal experience. As fundamental understanding and mastery is important, learnability must be considered an aspect of an information system. Gamification could be incorporated in the design phase of a program, that is, if users cannot learn some functionalities playfully (easy enough) then it probably should not be included in the program.

I started out with the plan to apply gamification to Mozilla's Firefox web browser. It is a simple tool, at least so it seems in the beginning, but yet widely misunderstood with regards to its capabilities and importance. Ribbon Hero had some limitations but I was sufficiently encouraged by this research to continue on with the idea that gave rise to it. I will continue collecting ideas and tinkering with the design and development of a gamified help system.

Even though developing a gamified help system for Firefox turned out to be too time-consuming, I still believe that Firefox is a valid platform for such an endeavour. Firefox's Add-On architecture allows expanding the browser's capabilities and customising its current behaviour and the Add-Ons themselves can be easily distributed over the internet. As a web browser is one of or probably even the most important application used on a day to day basis, finding enough participants will be easy. Moreover, with the Test Pilot⁴ project Mozilla already provides an infrastructure for this type of research. Thus, collecting enough data should be the easiest part as opposed to design and development.

⁴<https://testpilot.mozillalabs.com>

Bibliography

- Adams, E. (2004). The designer's notebook: Bad game designer, no twinkie! Gamasutra. http://www.gamasutra.com/features/20040611/adams_01.shtml. Retrieved online Mai 28, 2011.
- Atwood, J. (2011). The gamification. <http://www.codinghorror.com/blog/2011/10/the-gamification.html>. Retrieved online, Feb. 18, 2012.
- Bateman, C. & Boon, R. (2005). *21st century game design*. Hingham, Mass: Charles River Media.
- Beauvisage, T. (2009). Computer usage in daily life. In *CHI '09: Proceedings of the 27th international conference on Human factors in computing systems*, (pp. 575–584)., New York, NY, USA. ACM.
- Brown, E. & Cairns, P. (2004). A grounded investigation of game immersion. In *CHI '04 extended abstracts on Human factors in computing systems*, CHI EA '04, (pp. 1297–1300)., New York, NY, USA. ACM.
- Carroll, J. (1982). The adventure of getting to know a computer. *Computer*, 15(11), 49 – 58.
- Carter, P. (2007). Liberating usability testing. *Interactions*, 14(2), 18–22.
- Cornett, S. (2004). The usability of massively multiplayer online roleplaying games: designing for new users. In *Proceedings of the SIGCHI conference on Human factors in computing systems*, CHI '04, (pp. 703–710)., New York, NY, USA. ACM.
- Cowley, B., Charles, D., Black, M., & Hickey, R. (2008). Toward an understanding of flow in video games. *Computers in Entertainment (CIE)*, 6(2), 1–27.
- Csikszentmihalyi, M. (1990). *Flow: The Psychology of Optimal Experience*, volume 54. New York, NY: Harper Perennial.
- Cummings, J. (2011). Word 2007: Not exactly a must-have. <http://redmondmag.com/articles/2007/10/01/word-2007-not-exactly-a-musthave.aspx>, Retrieved online Feb 23, 2011.

- Desurvire, H., Caplan, M., & Toth, J. A. (2004). Using heuristics to evaluate the playability of games. In *CHI '04 extended abstracts on Human factors in computing systems*, CHI EA '04, (pp. 1509–1512)., New York, NY, USA. ACM.
- Federoff, M. A. (2002). Heuristics and usability guidelines for the creation and evaluation of fun in video games. Master's thesis, University Graduate School of Indiana University, Bloomington.
- Fullerton, T., Swain, C., & Hoffmann, S. (2004). Improving player choices. Gamasutra. http://www.gamasutra.com/features/20040310/fullerton_01.shtml. Retrieved online Mai 28, 2011.
- Gee, J. P. (2004). Learning by design: Games as learning machines. *Interactive Educational Multimedia*, 8(1), 15–23.
- Hide & Seek (2011). Can't play, won't play. <http://www.hideandseek.net/2010/10/06/cant-play-wont-play>. Retrieved online, July 23, 2011.
- Johnson, D. & Wiles, J. (2003). Effective affective user interface design in games. *Ergonomics*, 46(13-14), 1332–45.
- Kane, B. (2003). Postcard from gdc 2003: 34 ways to put emotions into games. Gamasutra, http://www.gamasutra.com/gdc2003/features/20030308/kane_emotion_01.htm. Retrieved online Mai 28, 2011.
- Keirse, D. & Bates, M. M. (1984). Please understand me: Character & temperament types. *Prometheus Nemesis, Volume 5*, 1–210.
- Kuniavsky, M. (2003). *Observing the user experience*. Morgan Kaufmann.
- Lazzaro, N. (2004). Why we play games : Four keys to more emotion without story. *Design*, 18, 1–8.
- Lee, J. J. & Hammer, J. (2011). Gamification in education: What, how, why bother? *Academic Exchange Quarterly*, 15(2), 1–5.
- Limina Application Office (2011). Expert evaluation. <http://www.limina-ao.com/services/evaluation.html#usabilitytesting>, Retrieved online Nov 02, 2011.
- Love, J. G. (1994). The hermeneutics of transcript analysis. the qualitative report 2(1). Retrieved August 23, 2010 from <http://www.nova.edu/ssss/QR/BackIssues/QR2-1/love.html>.
- Ludford, P. J. & Terveen, L. G. (2003). Does an individual's myers-briggs type indicator preference influence task-oriented technology use? In *INTERACT*, (pp. 1–5).

- Malone, T. W. (1982). Heuristics for designing enjoyable user interfaces: Lessons from computer games. In *Proceedings of the 1982 conference on Human factors in computing systems*, CHI '82, (pp. 63–68)., New York, NY, USA. ACM.
- Pagulayan, R. J., Keeker, K., Wixon, D., Romero, R. L., & Fuller, T. (2002). *User-centered design in games*, volume 28, (pp. 883–906). Lawrence Erlbaum Associates.
- Rieman, J. (1996). A field study of exploratory learning strategies. *Transactions on Computer-Human Interaction (TOCHI)*, 3(3), 189–218.
- Shneiderman, B. (1983). Direct manipulation: A step beyond programming languages. *Computer*, 16(8), 57–69.
- Sweetser, P. & Dennis, S. (2003). Facilitating learning in a real time strategy computer game. *Entertainment Computing: Technologies and Applications*, 1, 1–8.
- Sweetser, P. & Johnson, D. (2004). Player-centered game environments: assessing player opinions, experiences and issues. *Entertainment Computing-ICEC 2004*.
- Sweetser, P. & Wyeth, P. (2005). Gameflow: a model for evaluating player enjoyment in games. *Computers in Entertainment (CIE)*, 3(3), 3–3.
- von Ahn, L. & Dabbish, L. (2008). Designing games with a purpose. *Commun. ACM*, 51, 58–67.
- Vorderer, P., Hartmann, T., & Klimmt, C. (2003). Explaining the enjoyment of playing video games: the role of competition. In *Proceedings of the second international conference on Entertainment computing*, ICEC '03, (pp. 1–9)., Pittsburgh, PA, USA. Carnegie Mellon University.
- Wellington, R. J. (2003). *Asynchronous Communication Technology: An Organisational Perspective on Efficacy and Use*. PhD thesis, Waikato University.
- Wikipedia (2011). Gamification — wikipedia, the free encyclopedia. <http://en.wikipedia.org/w/index.php?title=Gamification&oldid=439001798>. Retrieved online, July 23, 2011.
- Yin, R. K. (1994). *Case study research: design and methods, Applied Social Research Methods Series, vol. 5*, volume 1. Sage Publications, Inc.

A. Game-Flow Criteria

Adopted from Sweetser & Wyeth (2005):

A.1. Concentration

- a lot of stimuli from different sources are provided
- stimuli are worth attending to
- quickly grab the one's attention and maintain the focus throughout the session
- not burdened with tasks that do not feel important
- high workload but still appropriate for the perceptual, cognitive and memory limits
- no distraction from tasks one wants or needs to concentrate on

A.2. Challenge

- match one's skill levels
- different levels of challenge for different players
- level of challenge increases as players progress through the game and increase their skill level
- new challenges are provided at an appropriate pace

A.3. Player Skills

- one is able to start playing the game without reading the manual
- learning the game (mechanics) is part of the fun and does not bore the player

- online help is provided so that one does not need to exit the game
- learning the game (mechanics) is part of the game, i.e. learn by playing tutorials or initial levels
- player skills increase at an appropriate pace as players progress through the game
- effort and skill development are rewarded appropriately
- game interfaces and mechanics are easy to learn and use

A.4. Control

- one feels a sense of control over one's in-game character (avatar) or units and their movements or interactions in the game world
- one feels a sense of control over the game interfaces and input devices
- one feels a sense of control over the game shell (start, stop, pause, save, load, etc.)
- one cannot make errors that are detrimental to the game and one gets support to recover from errors
- one feels a sense of control of and impact on the game world, i.e. actions matter and shape the game world
- one feels a sense of control over performed actions and used strategies and is able to play the game the way one wants to, i.e. not simply discovering pre-defined actions and strategies

A.5. Clear Goals

- major goals are clear and presented early
- intermediate goals are clear presented at appropriate times

A.6. Feedback

- one receives feedback on one's own progress towards the goal
- one receives immediate feedback on one's own actions

- one's own status or score is always clear

A.7. Immersion

- one becomes less aware of one's own surroundings
- one becomes less self-aware and less worried about everyday life or self
- one feels emotionally involved in the game
- one feels viscerally involved in the game

A.8. Social Interaction

- competition and cooperation is supported between players
- social interaction is supported between players, for instance chat, social networks, etc.
- social communities are supported inside and outside the game

B. Situated Co-Inquiry

B.1. Participant 0

B.1.1. Notes

- confused by speed of sliding animation in the beginning of the game
- doesn't notice that scrolling is possible
- "that's probably wrong, probably I should wait till the end of the story"
- finished the introductory task after few minutes
- "a game that should teach me a few tricks about this programm"
- discovers that it's possible to scroll during story animation as animation is too slow
- confused by Word 2010 related tasks that are visible but cannot be selected for play
- needs a hint while playing the first task; confused by briefing at the top of the document
- more hints blocked by modal dialogue of Word
- rather than selecting data in the Excel sheet participant deleted it (by overwriting content with content of empty cell); participant doesn't know why that happened; all in all, failed to select data
- "I'm lost already, the data disappeared and I'm not sure why."
- after all, managed to create a pie chart but chart is empty
- presses 'Back'-button several times
- not satisfied with the result of empty pie chart but must have been doing right according to the game mechanics as win situation is signaled; participant does not feel being able to replicate result; discovered a bug actually

- follows instructions but feedback is not clear
- problems finding the right buttons from instructions
- two “format”-buttons, does not understand why
- finds out about “hover over instructions”
- wants support about “category”, “it’s [instructions] missing one step”
- “that was easy”, “ok, I got it”
- “was confused by [labels of buttons]”
- confused by where to click
- “I think I’m learning new things that I can do with this program like converting hand-writing to text or do animations.”
- “discovering new things”; “it’s just to show potential of the programm rather than to learn”
- steps could be more granular, especially from hints
- “I don’t know what I did, not sure whether I selected the right thing” even though participant won; expectation was that the ‘w’ in the right example will change as it was the last clicked element
- again confused by position of buttons/tabs
- participant suggests to automate the animation, that is it runs automatically without the need to hover over it
- “I feel better”
- “I use computer as a tool”; “I usually do it as fast as I can”
- participant becomes more familiar with animation from hint after 20 minutes
- “getting easier as you go”
- “It wasn’t really clear what ‘thumbnail’ is.”
 - “Probably my English is not good enough.”
 - “I actually don’t see any chances”
- all in all, participant run into several situations with word mismatch resulting in an unclear instruction
- “learn quite quickly”

- “It’s very unlikely that I would play the whole game, would google”
- participant is not sure whether it’s [Ribbonhero 2] is good enough to learn [properly], is the game serious enough?
- participant wants to continue
- “don’t feel like it’s right to play at work”
- participant would prefer to ask somebody first
- would stop soon after starting to play but would change opinion based on recommendation by others
- would learn after work
- “it’s not tiring, a lot of support, something that you can do easily”
- discovered an error
- discovered late that it’s possible to replay
- according to the participant the point is to learn, not to play
- “more relaxed approach to software but not to have fun”
- participant would prefer something more serious
 - it would provide the participant with confidence about potential
- participant missed time factor

B.1.2. Setup

- probably wrap ‘situation’ in a story: imagine you want to improve your Microsoft Office skills...
- sit to the right; place microphone to the right of laptop so that the fan is less annoying in the recording
- use Camtasia Studio’s built-in video-in-video capabilities, too, otherwise it’s difficult to map one recording to the other; probably it won’t be possible to use both recording programs at the same time

B.1.3. Transcript

(0:02)

R: You're free to play.

P: Hmm, let's see. There's a problem with the mouse. Start!

R: So, don't forget to think out loud, just keep on talking.

P: Ok, let's start.

(0:03)

P: Ok, nothing to do for now, I think.

R: So, what do you think?

P: Ermm, I don't know. I have no idea what's the point [watches the introductory video]. Seems to be the story of something but I don't know how it's gonna be related to... Help Clippy. What should I do? [clicks on 'Help Clippy'-button]

(0:04)

P: Oh, probably should I... That's probably wrong. Probably, I should have waited for the end of the story.

P: [whispering]

(0:05)

P: Ok, so now I want to change the font. I should select all [text], click the right button of the mouse, hmm. No, everything is selected it seems. Ok, I selected everything with the left button [click] of the mouse. I go change from 'Comic Sans' to 'Calibri'. Wow! [animation + sound] [whispering].

(0:06)

P: [clicks 'Continue'] So, I've done the first [task].

R: So far so good?

P: Yap. [continues watching story animation] It's a little slow. Probably, I can go faster manually. Ok, next step [explores screen with level selection].

(0:07)

R: I reduce the volume so that I can hear you better.

P: Ya, better. So, the middle age.

R: So, is it clear to what to do next?

P: Ermm, it seems I should... It's only in version 2010 to play this game [points to task only supported by Office 2010]. A game that should help me to learn a few tricks or to use this programm.

(0:08)

P: [tries to click the task that is only supported in Office 2010 eventhough Office 2007 is installed] [whispering] So, ya, probably I misunderstood what it was asking me. I thought I should start another program but it seems that I could actually start doing some of this questions [starts reading instructions, whispering].

(0:09)

R: What are you thinking?

P: So, I'm thinking I should find a way to move from one, ermm, should change the data surrounding the pie chart.

(0:10)

P: Probably, I need a hint to do that. Change the layout. [reads instructions] 'Present the data in the pie chart'. Need a hint [click on button]. [reads sub instruction] 'Select cells D8 thru E13'. [tries to select the cells but overwrites them with 'empty' cell; clicks on 'More hint']

(0:11)

P: More hint, [reads] 'Select the Insert tab' [performs right click on overwritten but still selected cells and clicks 'Insert'; tries to click on '1 More Hint' but modal dialog prohibits this] No! [clicks 'Cancel' in modal dialog; tries to select selects]

Probably, I'm lost already. The data disappears and I'm not sure why. When I try to select them [cells] they disappear.

(0:12)

P: [clicks '1 More Hint', reads sub instruction] 'Click Pie...'. I don't know how to insert tab, what does it mean? [clicks several times on table cells] I'm already lost. Should I move on, or?

R: Yap!

P: [reads instructions again] 'Click Pie'. [watches instruction animation by hovering with mouse over highlighted instruction] Ok, so insert probably for now, what, insert, what insert is... So, click on pie, go 3d pie. I'm selecting the kind of pie I'm looking for [fulfills the first instructions]. But of course the data is not there anymore [because it was deleted in the first place, user aware of misconception]

(0:13)

P: Probably, [??] before. [reads instruction] 'Change the chart layout with one click'. I probably lost the data in the first data when I tried to select it. I try to go back to the beginning [clicks several times on the 'Undo'-button].

(0:14)

P: Ok, so I selected the data through the keyboard. This time, seems that's working. So, go back to insert, pie, 3d [again, empty chart, unlocks all hints, reads instructions] Select the design chart tool, click layout 3, hmm, layout 2, layout 3, ok. Finally, I got it [clicks 'Continue'].

(0:15)

R: What do you think about the result?

P: Ermm, I think...

R: You wanted to create a pie chart,

right?

P: Yes and I did [laughing] and I didn't probably.

R: But the game tells you, you did?

P: Yes, I didn't see the end result, so...

R: What do you think about that?

P: I'm not sure [whether] it's very clear because in the end I did good [well] but I didn't see the result, my pie. I didn't appear, the pie I was looking for, but it said it's good [ok], must be good [ok], I trust them [laughing].

(0:16)

R: Do you feel [think] that you could create a pie chart, now, when somebody would give you a task and tell you 'do it with Excel'.

P: Ermm, not really, not really because I'm not sure I did it, I'm not sure if can, if I did right, I mean I must have done right but it's weird that I didn't select the data, just the names, the subjects, so I don't understand how it's possible that a pie can work properly. So, next one, 'The knights of the square table - You'll learn to use change shape fill' [click]. 60 points available. [whispering, reading the instructions]

(0:17)

P: Ok, I should change the shape of this table. I need a hint. (unlocks hint, reads instructions) 'Select the square table'. Ermm, how to select the square table, how to select the square table? (changes the size of the square table) Already selected probably. (unlocks 1 more hint, reads) 'Select the Format (Drawing Tools) tab.' One more hint. (unlocks last hint) Click edit shape, edit shape, change shape, oval (basically reading the instruc-

tions).

(0:19)

P: (clicks wrong button, see error message, reading) “Wait! You’re going down the wrong path.” Ok, so it’s not that. (clicks on different buttons, in search of something) There are two ‘Format’-buttons, I don’t understand why. Actually, I can’t find. . . , ok, just waiting a bit (hovers over highlighted hint to see animation) Here appears how to do [it], so format, insert shape. Ok, edit shape is in insert shape, category change shape and I go basic shape (clicks), seems oval, oh no, that’s round (but game indicates success anyway).

(0:21)

P: Ermm, no, that’s good, that’s all it was. She [the game] wants me to fill from walnut to oak. So, what do I need to do? Need a hint. Selet the table. Selected! (unlocks 1 more hint) Select the format, drawing tool, pff. (unlocks last hint, reads it) Shape fill, texture, oak. Shape fill, shape style, texture oak (whispering). Oak, that’s good. Probably, it should say the category before, quicker, in which shape fill or edit shape are included.

(0:22)

R: . . . in terms of? What do you mean?

P: Click on shape fill without saying the category (points with mouse to Ribbon label) because the first you’re looking for is the category, I mean for category ‘Insert Shape’, ‘Shape Style’, ‘WordArt Styles’ but it’s actually already telling you the button because there are a few buttons altogether. It’s like missing one step, one logic step to me. “Hallowed

Halls - You’ll learn to use ink to text, highlight.” (clicks on that task) Hmm, “convert the handwriting to text automatically. Highlight the text under the first foto.” Ok, how to do it? So, first, select probably, no, select the phrase but I need the hint. (unlocks all hints) I selected already. (reads instruction) “On the tools menu, click convert handwriting to text.”

(0:23)

P: (clicks) That was easy. So, “select the text under the reims photo”, selected! (unlocks hint) And formatting, highlight, I can’t see it. Yap, from the bottom, ah, ok. Ok, I got it.

(0:25)

P: (clicks several times on success message at random places) I was confused at the beginning, I was looking on the formatting tools, the formatting toolbar. Let’s play the next one. (reads out all instructions) Ok, “apply the fly in animation to make the knight charge at the dragon”. Need a hint. (unlocks the first hint) “Select the knight.” (unlocks the next hint) “Select the animation tab.” Animation tab, select! (unlocks last hint) “In the animate list, click fly in.” Hmm, no animate. Ah, ok, animate list, fly in. Ok, I’ve done the first one.

(0:25)

P: “Change the effect options to make him fly in from the left.” Need a hint (unlocks hint). “Select the knight.” (unlocks the next hint) “Select the animations tab.” More hint (unlocks hint). Custom animation, more hint, “in the direction list, click from the left.” Ah, ok, from left. “Use the ribbon to preview

the animation.” (unlocks all hints, reads them out) Ok! I didn’t see the preview but must have been good (game just continues and indicates success without performing the action)

(0:28)

R: How do you feel about your progress?

P: Hmm, I don’t, yeah, I don’t know, I should, yeah, probablby, I’m, hmm, yeah, I’m discovering new things, new things I can do with Office that I didn’t know about like convert hand-writing or do animation which is good. I think it’s just to show the potential of the problem rather than to really learn how to use it, still the first step I reckon.

P: (reads out all instructions for Canterbury Tale task)

(0:29)

P: (clicks several times on the paragraph/heading on the left hand side, finally, manually selects texts, unlocks all hints as some of the sub instructions have been fulfullid already while reading each sub instruction). Let’s see the mission. (watches instruction animation) That’s supposed to be Title style, also. Ok. (reads next instruction, unlocks 2 hints) “Select the body text.” (unlocks last hint, watches the instruction animation and follows its intructions) Ok.

(0:31)

P: (unlocks hint) That’s done, it supposed to clear the gramar (eventhough it’s about the formatting, not the gramar!), gramar, gramatic tool to find errors. ‘Turn the first W into a Drop Cap.’ (clicks 2 times on the drop cap in the example on the right hand side, unlocks hint) So, more hint. ‘Select the

Insert tab.’ (unlocks last hint) Drop cap, dropped, (whispers) drop cap, drop cap, dropped. Yap. I really don’t know what I did in here, I mean I didn’t really selected that, I’m not sure whether I have selected the right place. I tried to change the W in the example test but that didn’t make it.

(0:32)

P: (selects next task) ‘Ring Around the Rosie, Insert the SmartArt graphic called Text Cycle’. (unlocks first 2 hints) ‘Click SmartArt’, smart art, smart art (searches ribbons for button with this label, finally clicks on insert tab, smart art, tries to unlock next hint but fails due to modal dialog) So I clicked on SmartArt but, ermm, ah, cycle, yap, it’s done (but doesn’t select a cycle; the result is a graphic with 5 blocks).

(0:33)

P: ‘Add colorful accent colors. Need a hint. Select the cycle.’ This supposed to be the cycle (whispers, clicks on the graphic, unlocks next hint). ‘Select the Design (SmartArt Tools) tab.’ Ermm, that would be, design, design, design, column change color (unlocks next hint), ‘Change colors’ is already there (clicks on ‘Change colors’, a menu opens, unlocks last hint which closes the menu again) and what color you want? ‘In the gallery click Colorful - Accent Colors.’ (clicks on the right button)

(0:34)

P: ‘Add the White Outline style.’ (unlocks first hint) ‘Select the text cycle.’ Selected! (unlocks next hint) I don’t know what colorful accent means but. ‘Select the Design’ smart tab, tools, ‘In

the SmartArt Styles gallery, click White Outline', white outline, ermm, so styles, styles, styles, and, sssssssss, ok, (finds the right button by hovering over them and waiting for the tooltip) white outlined.

(0:35)

R: Do you feel the instructions are good enough?

P: Ermm, the problem is telling me white outline, I don't know where I should find the button, in which is the right [button] what they want, or is under another category. The good thing is, ya, no problem, although I realise all the time that when this animation appears that this animation is, I think, useful, yap.

R: So, would you to have more feedback like something pointing to what you need to do in better way, in another way.

(0:36)

P: Ermm, yaeh, probably.

R: Probably, something like an arrow.

P: Yap, totally. Yap, probably yes, in a sense that this case was white outline and.

R: Or would you probably prefer something like highlighting, you know, like flashing, click, click here?

P: Ya, probably what would be good, probably, this animation, I think, is quite clear. Probably. they should do an automatic animation when you click on the hints. It's good, the text, but also the animation, I think go on automatic because, of course if you don't know, if you need a hint, that means you [don't] know the program, so, they're telling you [about] some specific button that, you actually have to go and look around, ermm, pause

the mouse there or go to see the name of this effect, yap.

(0:37)

P: Let's go to next one. Ah, that's finished (finished first world, clicks on 'Continue').

R: Yay, how do feel about your progress?

(0:38)

P: (laughing) Really good, I feel better. Ok (continues reading/whispering the comic animation). 'Looks like you need some help getting down [...]'. Oh no! Clippy the prince [...]. Let's get him!' (scrolls the animation with mouse very fast) To be honest, all this presentation is nothing, I'm not really interested in it. I would avoid [it] but it's probably for, probably, it would be good for a child I reckon, not for.

R: Do you play games in your free time?

P: Not really, no. (whispers) "The pharaoh's to do list". Usually, I use one computer because I need, so, as a tool. I usually try to do things as fast as I can to rich the goal that I'm looking for. So, ya, basically. "Select the first list and remove its tags." (unlocks first hint) "Select the 3 lines in the first list." (selects the 3 lines in the first list, unlocks next/last hint and watches animation) "On the toolbar, click Tags > Remove Tag." Ok, tag (clicks on 'tag' button), remove tag. "Tag each item in the first list as To Do (continues whispering very quietly)." Ok, let's see (unlocks first hint) "Select the 3 lines in the first list (selects the first 3 lines in the first list, unlocks next/last hint; tags the item unintentionally with a star but that cause no error; opens the tag menu and clicks on

‘To Do’).” Ermm, ok, that was a bit easy, probably, it’s getting easier and easier as you go, as you’re learning its language (on the side, clicks on the level/task).

(0:41)

R: So, what exactly is it that makes it easier for you?

P: Yeah, that’s understanding a bit more and a bit better idea where/what the buttons are and in a language’s speaking sense I can use animation.

(0:42)

R: You mean you get used to the user interface?

P: Yeah, yeah, I get used to. “Change the layout of this slide to title only. Famous mummies. Change the layout of this slide to title only (unlocks first hint). Select the Home tab (it’s already selected! unlocks next hint). Layout. Click Layout > Title only.” Layout (searching for a button, finally hovers over hint to see animation), layout, title only, ok. “Hide slide 2 so it doesn’t appear in the slide show.” Need a hint (unlocks hint). “Right-click the thumbnail image of slide 2 (scrolls to slide 2).” Thumbnail, where is (scrolls up and down again, doesn’t understand that he’s doing well), ah, ok, thumbnail. That was not really clear (clicks on thumbnail of slide 2) because I didn’t know what thumbnail was, what it was referring at [to]. Probably, my English is not good enough, so. (unlocks next hint) “Click Hide Slide (performs the appropriate action).” Ok, (scrolls up and down) actually I don’t see any changes (with a chuckle) but, ah ok, yeah, yeah, it disappeared. There’s something on [top of] the number 2 that [indicates

that] the changes applied here, number 2, something appeared. “Duplicate slide 3 with just one command (unlocks hint).” Oh. “Right-click the thumbnail image [of slide] 3.” And, “Duplicate Slide”.

(0:45)

R: You said at some point that, probably, your English is not good enough.

P: Yap, because thumbnail, I know what thumbnail means but I don’t know if an English speaker, with thumbnail, right understands what [means] this is referring to, yeah, the slides. I was looking, actually, on the images in the slide, if thumbnail was printed in one the slides.

R: Ok, so what could be better? What do you think would be a better solution?

P: Ermm, explain where the thumbnails are, ermm, in the slide category or slides, yeah. Explain in a better way, I don’t know, thumbnail, for me, it’s misleading because I was looking for something called thumbnail as usually they use words that you can find on the various category tabs or buttons, if they say something usually you can find the right word so I was looking for some, the name that was telling me thumbnail (meanwhile, clicks on the next task).

(0:46)

P: Ok. “Use a Ribbon command to make this document’s margin narrow.” (unlocks first hint) “Select the Page Layout [tab]. (unlocks next hint) Click Margins > Narrow.” Margins, narrow. That was easy. “Use the Ribbon command to change the document orientation to landscape so the table fits better.” Need a hint (unlocks a hint). “Select the Page Layout tab.” And, “Click Orientation

> Landscape.” Orientation, landscape. That’s good.

(0:47)

R: Can I ask you a question? Ermm, do you know how long you’re playing?

P: Ermm, no! Not really, probably, I should guess. Should I guess?

R: Try!

P: Ermm, 30 minutes, I reckon half an hour. Was it right?

R: I’m just asking. Ermm, do you enjoy playing? I mean you said [that] you’re usually not playing games.

(0:48)

P: Yeah, yeah, so, not really, I’m not enjoying to play but now it’s going faster, quickly, ermm, yeah.

R: Does it motivate you?

P: Ermm, not motivating me to go, ermm, to play more but if I can find a way, if I’m looking for this case, ermm, change the margins, I know where I can go, sort of, where in this game, it means it goes right in this game here, ermm, I can learn quite quickly, so it’s good, ermm, yeah. This case is good. Is there a way, a hyperlink, to arrive to straight away here (tester means the menu/task selection screen)? Yes, yes, interesting.

(0:49)

R: Would you use this kind of game to learn Office, how to use Office, if you needed to?

P: Ermm, I don’t know. Probably, I would go, depends on what I have to do, I mean, I wouldn’t, I think it’s very unlikely that I would do [play] all this [the whole] game to learn, from the beginning to the end, to learn Office, how to use Office because if it’s just for me,

probably I just need to know one option, one thing to do like change the margins, so I would probably goto/use Google and if I need Office for work to know everything what a worker would [know], I would, probably, ermm, find a complete guide that’s show me to learn more deeply because I think it’s, probably, I don’t know if through this game you could learn [about] all the potential of Office, I don’t know if it’s serious enough.

(0:50)

R: So, you’re not really sure whether it can teach you all the stuff that you, probably, would want to know?

P: Yeah, yeah, especially for the chart, I don’t know, the chart, there were so many options to do, ermm, just so quickly, ermm, I didn’t really understand how to do and I think there are many more tricks you need to know that you use, for example for work if you want to save time and everything so it’s just quiet basic, it can work, probably, if you need to use it by yourself.

(0:51)

R: But if, let’s say, if the game would tell you that you could learn Office, every product, Excel, Microsoft Word, by playing this game, would this kind of make you play this game if you needed to learn or would you prefer a book or a tutorial that you can read?

P: Ermm, I don’t know, if, no, if the game has the potential to show you everything, yap, probably, yeah, I would give it a go, I would try it, yeah. The impression I’ve got is it’s not going to tell you many things, just a few tips here and there. I don’t if it’s them or what, ermm, but we

did charts but I think a chart is a bit more complicated. Should I go [continue]?

(0:52)

R: Do you want to continue? Go ahead!

P: Yap. “Replace the word ‘saunter’ with a different word with the same meaning using just the right-click menu.” (unlocks hint) “Right-click the word Saunter.” (performs the action but unlocks the next hint) “[...] Synonyms > Walk.” Ok, (right-clicks the word) synonyms, walk (successful), that was good.

(0:53)

R: Would you play that game at work?

P: At work (surprised)? No! (laughing) No, I think I couldn’t.

R: You couldn’t?

P: Yeah, I couldn’t, I could not.

R: ... in terms of that your boss won’t tolerate that you play[ed] or what do you mean by you couldn’t? Or, you don’t feel like playing is right at work?

P: Ermm, yeah, I don’t feel like playing is right at work and, ermm, I would rather ask someone else to do it a bit faster. I would rather ask someone else to help me with a few things, ermm, otherwise I’d probably learn by myself at home.

(0:54)

R: So, yeah, with/through the game or?

P: Ermm, yeah, the game, it depends if the game is able to show you all the potential of Office. I don’t think so watching [playing] this game. I didn’t have [haven’t got] this idea. Probably, I would start and stop it soon after, ermm, yeah but if someone’s gonna tell me or I’d find in a forum somebody saying it’s good, in some reliable forum, saying some reliable things, probably, I would come back and

try more [often].

(0:55)

R: So, let’s say it would cover everything that you need to know about Office would you play it at home, after work, to learn in your free time?

P: Yeah, because it’s not tiring actually, doesn’t look tiring. It’s a lot of support. Some things, you can do easily.

(0:56)

P: Ok. “Change chart type from Pie to Clustered Column.” (selects the chart, unlocks first hint) “Select the chart (already selected before; unlocks further hint). Select the Design (Chart Tools) tab. (unlocks hint) [...] Change Chart Type.” (clicks on ‘Change Chart Type’ button and success is indicated even though nothing changed). It actually hasn’t changed yet but it was clustered column; it says I completed it but, it says I completed it before I actually changed to clustered column (meanwhile, re-opening the change chart style dialog but without applying any change). “Apply a chart style. Select the chart (clicks on the chart; unlocks all hints). Select the Design (Chart Tools) tab. [...] Chart Styles [...] Style 46 (watches the animation).” (as chart wasn’t changed to clustered column the animation contains different type of chart style as to what the chart style dialog has to offer; selects style) 46 (success)

(0:58)

P: “Play again without hints.” (whispering some stuff) I’m not really interested to play again without hints my point is it’s not a game.

R: Have you discovered that before that

you can re-play?

P: No (laughing), I discovered now. I was trying to go on. (in the world/task selection menu) “This challenge requires the 2010 version of Microsoft Word.” (tries to click on unavailable task due to Office version) Ok.

R: Would you re-play to gain more points?

P: No because I’m not interested in the points. I don’t even know what the points are supposed to mean [represent] after the end, no, it’s not, the point of the whole thing is to learn, not to play. It probably will be good, again, for kids, to motivate the kids to play, not for an adult.

(0:59)

R: So, the points don’t motivate you?

P: No, no. They didn’t motivate me.

R: Would they motivate you if you could compare yourself to other players?

P: No, not really because, yeah, ermm, I don’t see, really, I mean I see the point of the game, for me the only point is to have a more relaxed approach to the program, to the software, not to actually have fun. To have fun it’s more different, yeah. Anyway, even following almost all the hints you get a lot of points so it seems to be not so difficult to get all the [required] points.

(1:00)

R: So, you would, probably, prefer something more sophisticated.

P: Yeah, something a bit more serious, probably, yeah. It would give me, probably, more confidence in this kind of program. If it would be a little bit more serious it, probably, would give me an idea

that is had more potential, this software here.

(1:01)

R: If it would provide you with more confidence about its potential could imagine playing the game and then going to your boss and showing, look I know how to, or would you or can you imagine putting it in your CV, let’s say your highscore, to show that you know Office?

P: (giggles) No, no. If it was more serious, yeah, but.

R: But this is what I mean. If it would be more serious, it would give you a feeling that it really; so you have the feeling that it doesn’t really kind of convince you that if you play the whole game you know how it works?

(1:02)

P: Yeah, I don’t have this feeling right now.

R: Ok but if you would, could you imagine using this as something to show that you understand how it works.

P: Ermm, I should see how long reads an idea quite far from what I think it because usually, ermm, I mean it needs, I’m looking for certification, recognise it to put into the CV to show something to the boss rather than, ermm, yeah, so, I don’t know, probably more serious but would be, yeah, to see, like something that you have, I don’t know, probably, to put to log in and you have time to complete all the games not just the points. The point system is ok but also a time to finish so that you can’t go to spend too much time on internet looking for something, looking for help or something, so that, ermm.

(1:03)

R: Ok, so want to feel more pressure while playing the game?

P: Ermm, not really but to see if I would show to someone my ability to use Office,, this program, this software, things that one needs to have, probably, to have a log in to do, I don't know, to have a certain amount of time to do each task, yeah, different system attribute to certain points, more difficult, more points, that, probably, could work, yeah, that way, yes. It's

quite far from this version, actually.

(1:04)

R: I think we can stop. You're already playing for more than an hour. Ermm, you enjoyed it.

P: Yeah, it was interesting to see it because I discovered new things, I, really, didn't have an idea, I don't know, even if it's, yeah, I didn't know there was this thing [game]. It's interesting to know, yeah.

B.2. Participant 1

B.2.1. Notes

- font too small and cannot be adjusted; “probably I need some glasses”
- participant overwhelmed by choices after introductory level; Ribbon Hero does not provide any guidance or explain the “open world” in any way
- to the participant Ribbon Hero 2 is less of a game, it is rather a learning tool teaching one to be more productive; “it’s a game but not really a game”
- in certain situations it is not possible to ‘go back’ that is undo actions (bug) but only ‘retry’
- confused by the meaning of “tab” as in “insert tab”
- by retrying “I can see if I learned something”
- only instruction on the right hand side (right panel) change, thus initially, participant does not grasp all details when a task is done or finished
- it is possible to close the Ribbon Hero panel (right hand side) and it is not clear how to bring it back; after several different attempts we gave up, closed the current window and restarted it again; it does not seem to be possible to recover from this state
- a double click in the main window of the game does not minimise the window, instead it stays in the foreground hiding the underlying window with the tasks

- participant wishes to be able to play only those levels related to one program rather than being forced to play a mixture; it would allow to focus on learning one specific application
- after testing notes:
 - participant suggested to use Ribbon Hero in schools, e.g. IT classes as a game might provide more motivation and be more fun than the learning material normally used by teachers

B.2.2. Transcript

(0:00)

R: Basically, what I want you to do is, basically, play the game just the way you want to. Just keep on playing but when you play or as long you play, the whole session, I want you to think out loud. Everything that you think, that's on your mind I want you to express it, say it out loud.

P: Ok.

R: Just keep on talking.

P: So every reaction that I want to do I have to do describe?

R: Try to talk as much as possible. If you stop talking for some reason I'll probably remind you to talk again. Just try when you can and keep on playing.

(0:01)

P: What's this game about?

R: This game is about Microsoft Office. Do you know Microsoft Office?

P: Yeah, yeah.

R: Do you use Microsoft Office?

P: Yeah, yeah.

R: Ermm, this game is about Microsoft Office and what you can do is Microsoft Office. I, basically, want you to play the game and discover what the game is all about?

P: Nice, I like that. Should I start to play.

R: Yes, go ahead.

P: (long) Play! OMG, it's written quiet little (small?). It's going out (introductory story telling, slider moving automatically).

(0:02)

R: So, what's your mind?

P: So, it's a little bit confusing. What is this yesterday, why, doesn't fit with the previous story.

R: Do you know Clippy?

P: No, Clippy, no. Is it a famous...?

R: This is Clippy.

P: Ah, the clip but is it a famous character?

R: Have you used Microsoft Office before, the older versions?

(0:03)

P: Ah, ok but the search was crap so I, and the dog was worst.

R: That's just the best comment so far.

P: (laughing) But I would fight both, the dog and the clip. Can I go ahead? Yes!

Ah, I can go ahead, ok, sorry, I didn't understand that I could go, before.

R: Oh, you just use it the way you want to.

P: Can I stop this [animation]. It makes

me a little bit sick, this motion. I think, maybe I need some glasses in my age.

(0:04)

P: “Help Clippy!” Ok (clicks on the button). So, I assume this was like the introduction. Ah, we’ve got Microsoft Office, nice. Seems to stay at work (laughing), ok (clicks on scroll bar but program hangs), oh, not responding. Did I do something wrong? Ermm, no, sorry.

R: It’s just loading.

P: (starts reading objective of “Clippy’s resume” task and becomes quiet shortly after)

(0:05)

R: So, what’s going on?

P: Yeah, ok, it’s the history of Clippy (points to the CV), work experience.

R: Do you know what you need to do?

P: No, so far. Ah, here are instructions. I don’t know, I was reading but what’s my goal.

R: Ermm, ok.

P: Hobbies, yoga, we have the same hobby. Ok, now, what should I do? I read here, instructions: “Change the font of the entire document from Comic Sans to Calibri.” Ok (selects the whole text, changes the font, success).

(0:06)

R: Yay, you won!

P: “Continue”, ok.

R: What do you think? That’s cool, ey.

P: (laughing, amused, starts reading the comic) “At the interview... You’re resume looks great! You’re Hired!” (scrolls manually to the right) “No! What? Where am I? Mom?” (clicks to continue)

P: Ah, “The middle Ages”, what should I do?

R: You tell me!

P: So, I’m clicking, I’m going around first, ok. I start to read some something. “Canterburied Tale - You’ll learn to use styles, clear formatting, drop cap.” Ok. “You’ll learn to use sort.” Which one shall I choose? I don’t know. Maybe [based] on the “available points” or maybe [based on] those things that I don’t know, those things that I want to learn, “pie charts, smartart”, I could start with this, I don’t know what “smartart” is. “Change shape”, ah, this [one] I know, I think (reading description of another task and whispering).

(0:07)

P: Ok, let’s start with this [one] (clicks on task). “Ring Around The Rosie, Insert the SmartArt graphic called Text Cycle”. Ermm, where is it, in “Insert” (clicks on tab), ermm, “SmartArt” (clicks on button), what is it called? (moves dialogue down) “Text Cycle”! (clicks on “Cycle”) Is this a cycle? Ah, ah, ah, like this (points to the cycle, selects the one and clicks ok), ok, “Add colorful accent colors” (right-clicks on the text cycle), ermm, maybe “Format Shape...” (clicks on button), oh, oh (reads the “Wait, Wait! [...] wrong path” dialogue and clicks continue; ends up being faced the dialogue from the ‘wrong’ action, anyway) Let me see! This is the text (clicks on “[Text]”, then outside on the cycle). I assume I have to do it like what’s in the example. If I want (right-clicks on cycle) “Change Shape, Reset Shape, Format” (clicks on “Format Shape”, is faced with “wrong path” dialogue), oh, “Try a different button on the current tab in the Rib-

bon.” What is “Ribbon”? (clicks on it, hovers over it) Ah, it’s not this one (clicks on “Continue”), ok, so close (clicks on “Close” button of dialogue from wrong action), should I cancel (right clicks on the cycle), (clicks) “Cut”. Let’s try it again! (clicks) “Insert, SmartArt”, yeah, because it’s called “Text Cycle”, here there’s a cycle (clicks on “Cycle”, hovers over icon and discovers tooltip), ah, ah, “Text Cycle”, see, it’s this one (selects it via click and clicks “OK”), ermm, they’re focusing on the text (“[Text] element is selected”), but (selects cycle), c’mon, ah, because this is for everything, I try to write something (selects a text element and types, tries to perform the previous right-click action again and is faced with “wrong path” dialogue, ah (grins, closes dialogue from wrong action), “Add colorful, Need a hint?”, yes (unlocks hint! Ok, I’ve done [that], (unlocks next hint) “... the Design”, “SmartArt Tools” (right-clicks on text element), ah (discovers “SmartArt Styles” Ribbon), c’mon, now I got it (clicks on “Change Colors, Accent 2”, success even though the “Colorful” accent was not selected), sorry, I didn’t check, this is another version. “... the White Outline style.” (looks and scrolls down in that Ribbon) No, open this (clicks on “Change Colors” and selects “Colorful” this time), and now we are, (hovers over several “SmartArt Style” and looks at the live preview, selects one that is similar to the style in the example), yap! It took a lot of time. “Congratulations! Continue.”

(0:11)

R: So, so far, so good?

P: Yeah, yeah, yeah. I was stuck but then I had to look more around.

R: But it was obvious to you what you needed to do?

P: At the beginning, not that much because insert what but you go for what they’re asking you, you search [for it] in the toolbar. So, I like [this] way to learn.

(0:12)

R: So, do you feel like you just learned something?

P: Yeah, but is it in the real Microsoft Office? Yes?!

R: Yes, this is real Microsoft Office.

P: Ah, ok, which version is [that]?

R: This is the version 2007.

P: Ah, ok. I don’t have this one.

R: You need to install, additionally, to Microsoft Office. It’s not built-in.

P: Ah, ok. “Apply the Title style to ‘The Canterbury Tales’ on the left.” Ok, this one (selects the left title, right-clicks it) It’s not font, is it. (clicks on it, is faced with “wrong path” dialogue) Maybe not! Ok, thank you. (clicks “Cancel”) Ermm, maybe they give you the ‘wrong path’ [dialogue] in a too short period after, maybe you should try more, I don’t know, just to have more fun.

(0:13)

R: So, you feel like there’s one solution and you would like to explore your way?

P: No, maybe they stop in the wrong, when you get the wrong way they stop you very fast, after a short time. You can not go ahead in that wrong way but maybe it would be nice, also, to be a little bit more lost in the wrong path. But the purpose of this game is, I assume, to better understand Microsoft Office. So, not

to understand but to work better with Microsoft Office, so the purpose is not playing the game but to be like Clippy and Clippy wants to help you. So, the less time you need to arrive at the solution the better it's for you because you have to do it while you are working on stuff you are not doing in your spare time. So it is game but not really a game.

(0:14)

P: Ok, let's see. "Apply the Title style to 'The Canterbury Tales' on the left." Ermm, let me see, not in "Insert" (continues clicking on all menu tabs), it's not here (right-clicks on the title, "Styles"), it's not font because (clicks "Font"), ah, ok (faced with "wrong path" dialogue), anyway, let's try, I don't lose anything (right-clicks title again, "Styles > Update Normal to Match Selection"), ah, "Look, Chaucer!", I don't know what that means (after performed action everything became bigger), I think it's fine, ok, give me hint (unlocks hint), ok, I've done [that] (unlocks hint), "... Home tab" (clicks on "Home" tab), yeah, (unlocks last hint, watches animation), ah, ok, shall I go, no, I can go back! So, I did a mistake! "Look, Chaucer!" What does that mean? Ah, it was here before but now it's big. It was here but it was hidden [smaller?]

(0:16)

R: So, now, it didn't block you from doing the wrong thing.

P: Yeah but I cannot go ahead (performs several right-click > "Styles" > menu item click combinations), uh-oh! I would like to go back.

(0:17)

R: You can not go back?

P: No, [but] retry! Ok (selects title, scrolls through font menu, opens font dialogue by clicking on the small icon in the bottom right corner of the Font Ribbon, is faced with "wrong path" dialogue). Not here but it didn't say. Need a hint (unlocks all hints, watches animation), ah, in that one, sorry. So, what do I do? Title style, ok! (smiles) Thank you!

R: Is it clear to you, now, that you did the right thing?

P: Yeah, yeah. There were those balloons. "Clear the formatting of the body text." What is clear? Cancel? (unlocks all hints, watches animation), ah, I didn't know this one (clicks on "Clear Formatting" button, success). "Turn the first W into a Drop Cap." What is that, the drop cap? (clicks several times on the "W" from the text, unlocks 2 hints, clicks inside the body text), ah, click inside the body text. Inside where? Here? "Select the Insert tab." (selects it) Ermm, where is the insert tab? (confused, tries to press the Insert key on the keyboard), uh-oh!

(0:19)

R: So, you are irritated?

P: Yeah, I don't understand what the "Insert tab" is.

R: But the thing that you just clicked before is not satisfying you?

P: Which one?

R: At the very top, you clicked on "Insert".

P: And "tab", I can't find the tab that I want to insert. (unlocks last hint, watches animation) "Click Drop Cap", ah, no, sorry but I don't understand this. Retry! Uh-oh, from the beginning? First to this so I can see whether I learned

something. Title, yes. It's nice to do it again because you can prove if you've learned it or not. "Turn the first W into a Drop Cap." Let me see what that means. (unlocks hint, reads it but question the term 'inside' again). Where? At the beginning or between to letters? I'm not sure what to do. I click before the W because there is the W.

(0:20)

R: And just clicking somewhere is irritating you?

P: Ermm, because I don't understand the instruction, so, I don't think the instruction is clear. And this "... Insert tab"?!

(0:21)

R: How come that you think it is not clear?

P: This "Click inside..."? Because, ermm

R: So, you are irritated because you want the drop cap of the W and it says click inside.

P: Yeah, yeah.

R: What do you feel? Do you think, like, what should you be clicking instead or what should it be?

P: I think it is not like 'select the first W', it's "Click inside the body text", the body text can be the entire paragraph, can be the first letter, can be the W only. And "Click", where do I click, on the left, on the right of the W, on the left of everything, at the beginning or in the middle, anywhere, it doesn't matter?

R: Ok, so what do you decide to do? You don't know?

P: At the beginning!

R: And you just decided to continue?

P: Yes! But then there is this "Select the

Insert tab". Ermm, give me a hint (unlocks last hint, watches animation). Ah, ok, so insert (clicks on "Insert" tab, finds 'Drop Cap' button). Ah, the tab is this one, the insert (points to tab menu), ah ok, sorry because "tab", well, they call it "tab". "Drop Cap", ok, I've got this one. I would like to see one thing. If I click somewhere else would the drop cap start at which position?

(0:23)

R: You can!

P: Ok but let's go ahead.

R: So, you decided to continue rather than trying again?

P: Because, ok, let's try it, let's do it again. This one, I know. (clears first 2 instructions) Now, for example, I put it here (clicks inside the text) and I do [click on] "Drop Cap", ah, [click] wherever [you want to], ok. But, maybe, I would say like click in what, I don't know, whatever position inside or maybe you just have to try because lot of things are not so obvious at the beginning when you do it but then when you know it one time after [doing it once] it is fine. (continues)

(0:24)

P: (hovers over just solved task) "No hints used." So, I gain more points if I don't use hints. Should I do everything (play every task/level)?

R: I don't know. What do you think? Do you need to do everything?

P: I think so because there's nothing else to do. So, if I already know something and I want to go ahead, can I [do that]? Or not? In this case it is fine, I don't know this animation [stuff].

R: But you've played games before,

right?

(0:25)

P: Mario Bros. (laughing)

R: Well, in the games that you know could you just go ahead and skip stuff and just select what you want to play?

P: No, generally not. Yeah but this is different because it's not really a game. It's more like an application to learn something. So, it's more like you don't have pass [complete] certain levels. I mean, it's like that [game] because you gain points but it's an hybrid. So, maybe some rules of game can not be applied to this. Or maybe they don't have sense if applied to this kind of game. Let's see. "Apply the Fly In animation to make the Knight charge at the dragon." Ok, (clicks) animation, "Fly In". I try to not use hints. It comes out after a few seconds (means, the "Need a hint?" button is flashing) if you just stay there, to remind you, c'mon. Are there, like points for the time to finish the game?

(0:26)

R: What do you think?

P: Seems to be.

R: How do you know? Because, do you see a time somewhere?

P: No, actually not, that's true. Otherwise, they should put the time somewhere, shouldn't they?

R: ... if it's time constraint, right? But you don't [really] know? You are kind of left wondering but you are not sure whether there is time constraint or not?

(0:27)

P: I'm not sure because I didn't check properly, like the slide before, where there are all those things. I'll check bet-

ter to see [find out], but this fly animation, let's see if they are [?], (clicks) "Custom Animation". No? No, I don't think [that's right]. I would like to try it by myself. "Transition" does not make any sense. Uh-oh, uh-oh, I insert, no, maybe, no (clicks on different tabs, finally returns to "Animation" tab again), I think it's the only one [that makes sense?], ok, give me a hint! "The knight"? Sorry! What is the knight (doesn't know the word, blames English skills, provided hint what a knight is to avoid language barrier). Ok, select the knight (by clicking on it), ermm (right-clicks), no, (clicks on "Format" tab), no, (right-clicks on knight, clicks on knight) no, (clicks on "Animations" tab, groans, clicks on "Custom Animation") maybe yes, "Add Effect" (hovers over "Entrance"), (clicks) "Fly In", ah, here (but instruction 1 is not crossed out yet). "Change the effect options to make him fly in from the left." So, "Direction > From Left" (instruction 2 is crossed out). "Use the Ribbon to preview the animation." Ribbon? Ribbon, ribbon, ribbon. Ah, (discovers annotation for "Ribbon" in task instruction) "The Ribbon is the strip of buttons across [...]", in this case it's quite small, everything to see, "[...]" is the strip of buttons across the top of this window."

(0:30)

R: Is there a reason why you use the instructions in the middle rather than to the right?

P: Ah, it's true. Yeah because I'm already here (points to the crossed out instruction 2), I'm done with this, so I want to go ahead, I want to know which is the

other, the next step, what here is (points to hidden instruction 3). There is no anything so the only thing I can see is this one (points to instruction 3 in the middle of the screen).

R: What about number 1? You've done number 1?

P: Yeah but it's not finished actually (clicks on the small "1" that represents the first animation action within the slide, clicks many time on the first action in animation list and opens and closes, respectively, the menu several times, clicks on the second item in animation list), "Picture 3, Picture 1, and Picture 3", this is number 2 and this is number 1, so number 1 doesn't have, ermm, ok, ermm, now where is it to put, (long) ermm, (closes "Ribbon Hero 2" instruction list pane on the right side) closed you. (clicks) "Picture 3, Charge", it was "Fly In", I don't any more if it's right or not. It disappeared (points at the place where right hand side instruction list used to be), the other one, I closed but it disappeared.

(0:31)

R: Do you know how to bring it back?

(0:32)

P: (long) Ermm, no, no (deliberately clicks many times). I don't know [how], maybe, ah, no (deliberately clicks many times, again, minimises the whole window and is faced with game world screen), uh-oh (maximised the window again), I don't know, no (deliberately clicks many times on different number elements). Should I just go ahead and see? "Change", ah, "Apply the Fly In [...] to make the knight charge at the dragon." Should be this one first (clicks

on knights), 1 and 2 (points to the numbers 1 = dragon, 2 = knight).

R: Do you know what the numbers mean?

P: Is the number of this (points to the numbered instruction list), no, it's the number of animations, first animation, second animation, no?

(0:33)

R: Ok, how does that apply to, how is this connected to the instructions? Is it connected to the instructions?

P: Because the first instructions says to "Apply [...] the Fly In animation to" this guy (points on the knight) but the first is, I applied it to the dragon, so shouldn't be, I don't know, it appeared.

R: So, you think that the numbers belong to each other?

P: No! I think the dragon shouldn't move because they don't say anything about the dragon. So maybe I just cancel this one, (open menu of animation item and clicks) "Remove". Ok, I've got this. "Apply the Fly In animation [...]".

R: How do you know that you've got it?

P: That I'm good? I think, I assume, but disappeared the check menu [means the instruction list]. I don't where is it.

(0:34)

R: Any idea how you could bring it back, what you could do to bring it back?

P: Ermm, do stupid things like (clicks on random buttons in "Transition [...] tab), ding, ding, no? "Apply to all"? No. Maybe there? (clicks on "Home" tab, "New Slide") oh no (activated "Ruler" by deliberate clicking), no, they don't (and continues clicking deliberately, cuts out newly created slide). I'm doing stupid things but nobody comes. Ah, this [one]

(clicks on Ribbon Hero related button in “Ribbon Hero 2” ribbon), no! (minimises the game world window) this is, ok, editing, no, ermm (clicks on all tabs). I go ahead and try, maybe if we [?] when I finish! So I did (clicks) “Change > Fly In”, ok, 1, then (clicks) “From [the] Left”, ok, “[...] to preview the animation, [...] across the top [...]”, ermm, “The Ribbon is the strip of buttons across [...]”.

(0:35)

R: Do you know what the Ribbon is?

P: Here is the explanation but even with the explanation, “[...] across of this window[s]”, top, strip of buttons, (clicks on “Change” button) hmmm.

R: So, do you know what a Ribbon is?

P: No, still don’t (looks desperate). It’s a strip, a strip with a lot of buttons, “across”, also my English is not very good to understand this, “across the top of this window”.

(0:36)

R: You have “strip”, you have “buttons”, you have “across the top” and you understand “of the window”.

P: But “window” this one, no (points to either just the slide or the whole window)? The top is this one (correctly points to the top of the window including the menu tabs and its Ribbons) but the buttons there, there are a lot of buttons. Ermm, which buttons?

R: It’s still not clear to you what a Ribbon is?

P: No! (laughing) I think, I assume that it’s this one (points to the top).

R: The whole thing from the left to the right?

P: Could be! (laughing)

R: But you are still not sure, right?

P: But I’m not sure. I can see that “Preview” would be this (point to the “Preview Animations” button and clicks it, success). It should be ok but the explanation is, no, “the strip”, I would say go on preview in the animation tab because now I know that all of this is under animation tab, you just otherwise, strips of buttons there are a lot! It’s true that it was under “Animations”. I would say on the left or just preview under animations.

(0:37)

R: So, do you know what just happened? So, it played the sound.

P: Yeah, the sound says that everything is fine but I didn’t any other movement of, ermm, party stuff, balls or anything. And now, it didn’t happen anything else, so.

(0:38)

R: Ok, what we will do for now, we just close the window.

P: Yeah, here? (clicks on close button) “Save As...”?

R: No, just, just, you don’t save. And just click on the bottom icon. So, if you want you can retry the one.

P: Ah, ok, wasn’t good (there’s no tick for that task) because I shouldn’t have closed this one (points to the instruction list on the right side). Ok (clicks on “Animation” tab, selects the knight, clicks on the first item in the “Custom Animation” action list and continues clicking on the dragon, the knight and the number element).

(0:39)

R: Is there a reason why you don’t click

on “Need a hint?”?

P: (laughing) I want to do by myself. Ok, I try it again to see if it.

R: So, at which point would you decide when to click on “Need a hint?”? Because, I mean, you can retry, you can play it once, you can ask for help, you can ask for a hint and then you can retry the whole level.

P: Aha.

R: But you’re still not doing it, you just want to solve it on your own.

P: Yeah! (laughing) But still is the dragon moving. I don’t know. Ok, let’s do it again but still by myself (clicks on “Retry” button). But why, “1” is [already there and next to the dragon?]. Can I do again from the beginning because they put a “1” [there] but I didn’t do anything (for some reason, the menus were already visible; closes the window and restarts the task; at this point the game world window did not automatically disappear into the background). (clicks) “Animations, Custom [...]”, like I didn’t push anything (again, the number “1” is already there), it was in default on the dragon. (clicks) “Change > Entrance > Fly In”, is the dragon. Ok, “Need a hint”, “Select the knight”, ok, I’ve done [that] (clicks on the knight, unlocks next hint), “Select the Animations tab”, ok (watches the instruction animation), ah, not “Custom Animation” (opens the menu “Animate”), ok, “Fly In” (success), uh-oh, but no, still the dragon is moving, so the dragon has to move anyway (result of previous unnecessary step, not game mechanics or instruction), ok. But I could do the same using “Custom Ani-

mation”, how I did, no? I think so! (unlocks hint) “Select the knight”. Ok, I’ll try to go by myself now. Ok, (clicks) “From [the] Left” (success) and (clicks) “Preview” (success). Ok, I did before but because there was not this tab, this [instruction list] window I couldn’t achieve the goal (thinks it’s because the pane was closed). But they should put, like a way to warn you not to close or, like to open again easily. “Continue”.

(0:42)

P: So, here (game world window) about the time, seems that the time doesn’t pass, no? No, does not. (explores menu in the bottom right corner, clicks several times) “Background music”, can I (opens the “About” dialogue and closes it immediately, clicks on the “Post Feedback” button), ermm, uh-oh, sorry (cool countenance!).

R: So, what do you try to achieve? What are you interested in?

P: I wanted to see if there’s like, time pass, because from it seems that (clicks several times on the arrows in the top left corner) something with the clock, with, and this music, tiin-tin always, seems that the rhythm is like the time is passing, ready to go.

(0:43)

R: So, it’s like creating some pressure to do something.

P: Yeah, yeah. (selects the task/level “The Knights of the Square Table?”) “Change the table’s shape from square to round (oval).” (right-clicks table > “Size and Position”, faced with “wrong path” dialogue, closes wrong dialogue), ermm, shape, shape, (clicks on “Picture

Tools > Format” tab and several times on the round picture style but nothing happens), ermm, shshshsh (clicks “Oval” in “Insert Shapes” but nothing happens, then “Edit Shape” > “Change Shape” > “Oval”, success). “Change the table’s fill from walnut to oak.” (right-clicks table > “Format Picture...”, faced with “wrong path” dialogue, closes it).

(0:44)

R: There is it again, the word “Ribbon”.

P: Which “Ribbon”?

R: When you right-clicked and you tried to go to the menu, have you read the error message?

P: Ah, no, no. (repeats previous actions to see “wrong path” dialogue) What did it say? (reads the error message) Ah, yeah, I don’t, ermm, I try to not [read it?]

R: Have you noticed that you can move your mouse over the word “Ribbon”?

P: Ah, ok, and they give the hint.

R: So, is it clear to you what a Ribbon is, now, when you see that?

P: Yeah, is, ermm, the, this particular tab, where you are.

(0:45)

R: Ok, so what’s the difference between Ribbon and tab? (pause) Is it the same? Is there any difference?

P: Ermm, the Ribbon is the tab that is opened in that moment and is like the, ermm, and contains all those buttons, and is what is open with all the buttons. And the tab is, each one is a tab (points to tabs), also those which are closed. So, ok (closes the dialogue and underlying menu dialogue). So this one, oak, ah, (clicks) “Shape Fill”, I don’t know, oak which one is. What is this?

(clicks on some orange) Nothing [indicating success], I don’t know what is, so, (clicks) “More Fill Colors” (no error dialogue), (clicks) “Custom”, I can not fill or enter oak, so, how is defined oak?

(0:46)

R: So, you’re searching for a color?

P: Yeah, that is defined from the term oak, (hovers over) “Texture”, no!

R: It’s no texture?

P: No, because oak

R: You’re expecting a color?

P: Yeah. “Walnut”, is as well a tree, so maybe, can be like there is, but there is no, ermm, (clicks outside, clicks “Shape Fill”) there’s nothing, the “Standard [Colors]”, (clicks) “More Fill [Colors]”, (selects some color) if I do like this they don’t say anything is right or wrong. Let’s see! (unlocks hint)

(0:47)

R: So, how do you feel about that because when you right-click and go to a menu, you get this ‘no, this is wrong’? But when you select a color, you don’t win but it doesn’t tell you that you’re wrong.

P: (meanwhile, right-clicks table, clicks on ‘Fill [...] bucket’ icon > “Texture” > random texture, success) Yeah. Ah, I did good. I don’t know why. I tried a texture but I don’t know if it was really that one. I’ve got lucky, maybe yes. Maybe, I would say like ‘choose fill from texture walnut to oak’ because this, I think, was.

(0:48)

R: So, you don’t, I noticed, you don’t care about the extra points when you don’t use a hint, so you just continue?

P: (meanwhile selects next task) It’s

more than, yeah, ermm, if I don't see, ermm, sort of exit I will use the hint. Otherwise, I will try first by myself.

R: But you don't feel like, ermm, to retry to get all points?

P: Ah, ok, I could (looks surprised and irritated).

R: Do you know what the points mean or why you are collecting points?

P: I'm collecting points to win! (laughing) Bigger score!

R: Do you know how to win?

P: More score! And maybe the time, also. Ermm, yeah but it's no fun if I gain points knowing, I mean, if every time I retry and do with results that I know already. Everybody, otherwise, could win the maximum points. (laughing) "Sort the table in ascending order by year." (scrolls down and looks around) (long) Ok. Maybe this (selects first column, clicks different tabs, selects "Home" tab again, clicks on small icon in "Number" group, faced with "wrong path" dialogue, hovers over the word "Ribbon" and watches the explanation/image, continues, clicks on small icon in "Clipboard" group and closes the resulting opening pane), ermm, (clicks on "Cell" group label, discovers and clicks) "Sort [& Filter] > Sort Smallest to Largest" (success).

(0:50)

R: This was easy!

P: Ah, that's it! (smiles and clicks on "Continue")

R: Is it motivating you that you just won?

P: Yeah, yeah.

R: Does it make you want to continue?

P: Also, if, the thing that I can go and do it again, maybe de-motivates a little bit,

me, because, I want, like more challenging, when you get it wrong it's wrong, you know, like in the games. You have to start at the beginning but every section that you can retry and do it again how many time you like. Like more challenging. So, you can also like, ermm, play against someone else, well, against like let's see who gets more points, no? But if you can, everytime, it's not that fun. It's like when you do an exam and already know the answers. It's not that.

(0:51)

R: So, you want the competition?

(0:52)

P: Yeah, a little bit, yes. (continues silently reading the instructions for "Hallowed Halls") "handwriting", ah, this one (selects handwriting), ok, "to text automatically", ah, we are, where is it, this, I don't know, "Microsoft Office OneNote", I've never used this OneNote, hmm, nice to know.

R: Do you know what you can do with OneNote?

P: No! I understand that, maybe, I can write something, maybe I can scan something with my right hand and then it's converted from this (laughing as if she's not buying into what she just said). So, let's see! (clicks) "File", I try to, ermm, to use what I usually do when I don't know at the beginning, a software or something. Try to look around before to ask for help. (hovers over each menu item and reads through the list) ermm, maybe (clicks) "Font", [?] "Calibri", "Apply" (clicks on different item in font list, on label of list, 'Forward' button), no, doesn't help, like (closes font list), ermm,

ermm, ermm (hesitantly whispers something while hover with mouse over different buttons), what I usually, seems (clicks “Toolbar Options” > ‘Font list’) Calibri but it’s not Calibri I think (thinks converting happens by changing font, select “Cambria” font), uh-oh, no, it should be there so think different. (hovers over buttons and reads) “Unfiled Notes”, “All Notebooks List”, pff, hah (unfolds “Notebooks” pane on the left hand side), pff, no! Huh, give me a hint (unlocks a hint), ok, I did, “Select” here (select handwriting, watches hint animation), aha, “Tool[s] menu”, ah (moves handwriting), uh-oh, sorry (moves it back), so (clicks) “Tools”, ah, here (clicks “Convert Handwriting to Text”, success). “Highlight the text under the first photo”. Highlight, highlight is like this (select the converted text), ah, there was a word, ah, this one (clicks on “Highlight” button, success).

(0:55)

R: How did you know?

P: From Word! (smiles) They’ve got the same icon. (continues, faced with “Congratulations - You’ve leveled up” dialogue)

R: What’s happening?

P: It’s finished! Well, the first level. Ok (clicks continue), first [?], “Rapunzel, Rapunzel” (smiles, scrolls to the left), stay there! I don’t like the movement while I’m writing [reading?]. I understood the story doesn’t have any [?]. (continues)

(0:56)

P: (clicks on next task) Oh, “250” [points]. (scroll down, up, down and clicks on graph)

R: You just clicked on the first one that

you saw or did you decide on the ‘250’ as you said [out loud]?

P: Ermm, no, from the left [to the right], yeah. But is true that if there is a time, once finished the time, you should have, yeah, started from, ermm, from the highest points [??] also, I took a lot of time in the first but I could [not?] finish, so. “to Clustered Column” (clicks on “Design” tab, then “Layout”, then “Insert > Column > 2-D Column”, success).

(0:57)

R: It’s going quite well, you don’t need a hint.

P: I know this (laughs) Excel, ermm.

R: So you really want to do it on your own, right?

P: Yes! (laughs) So, [that it] looks like this (points to example graph)

R: But how come because you said there is no real competition but you still want to do it without asking for a hint because you want to have [get] all the points?

(0:58)

P: (long) Yeah, [but] also because [then] it’s more challenging for me, no?, if I do. Otherwise there is no point to use [it]. You want to do this to learn, also to prove that you could do without any hint, you know. (right-clicks graph, “Format Chart Area... > Fill > Solid Fill, > Color > Black”) uh-oh, no (clicks “Color > Blue”), why, ah, ok, because they’re black of course (closes dialogue), (right-clicks x-axis)

R: Do you know what you need to do?

P: Yeah, I need to make this chart look like this one, so I need to convert (right-clicks x-axis again) so I need to convert the text in white (clicks “Font”).

(0:59)

R: Ok! How do you know that you need to do, that you need to convert, make the text white?

P: (meanwhile faced with “wrong path” dialogue, continues and closed underlying dialogue) Because this is white (point to example graph), those [labels on the x-axis] are white.

R: So, based on the picture?

P: Yeah.

R: Does the instruction, do the instructions mention that you need to change the color to white?

P: Ermm, actually no! Well, the chart style, (long) ermm, maybe it’s only the (clicks deliberately, open “Design” tab, makes graph columns purple by selecting it from “Chart Styles” group, success). So maybe only those (points to the columns of the graph)

R: Do you know why you won? Or do you have any explanation for what happened? Why did you do what you did?

P: Ermm, because I did, ermm, ermm, a clustered column, and this tile, I thought, that was everything, the background, ermm, ermm, the text and the colors, ermm, bars. Seems it’s only [about] the color of the bars. Ok, so maybe “Chart Style” is the chart, so only the graphic, no text or something (continues).

(1:00)

P: (selects next task from left, whispers) “Who broke the sphinx? Apply a built-in theme” (switches several times between the 2 slides), like this what, this one? (points to example slide) Look like this. (right-clicks example slide, clicks outside, clicks “Design” tab and hovers over sev-

eral “Themes” to see the live preview), (long) ermm.

(1:01)

R: So, what is confusing you?

P: I don’t know which is the built-in theme. I think (switcher many times between the 2 slides), ermm, ermm.

(1:02)

R: So, you clicked several times on the first slide and the second slide. Ermm, why did you do that? Is it like

P: Because I think that this “looks like this” is the second one, this is the built-in (points to the example, so misunderstands the instruction)

R: So, the end result that you want.

P: Yeah, and this is [the] before slide (points to example) to have all the [im?]pagination of the page. And “Themes” are here (points to “Themes” group in Ribbon), (clicks) “Fonts”, no, (clicks) “Effects”, (hesitantly & long) no, (woefully) ermm, (hesitantly) [?], “Paper”, no, no (hovers over several themes and looks at the live preview; unlocks hints), “Design”, yes, (watches instruction animation) yes, “click Civic”, (hovers over themes until the tooltip with the name of the theme appears) why (and finds the right one, clicks it, success).

(1:03)

R: Do you know why?

P: (looks unsatisfied, good photo) Actually, no! Pff!

R: Do you feel like trying again or do you just want to continue?

P: I can try (and clicks “Retry”) because, anyway, I gain points without anything. Ah, ok, so this has to look like this (gets it right!). Ok, now I under...

(1:04)

R: Do you like this approach that one document contains how it should be like and at the same time the piece that you need to change?

P: Ermm, not that much. I mean, this presentation, I didn't understand what was the next one or that this presentation (points to second slide) is like this (switches to slide 1) that explains you is at the same time what has to be changed. Hmm, was a little bit confusing. And "Civic" (theme name) is, you have to try, like going like that is fine because if I look this and I go ahead and I see, ah, this is but is quite difficult if you don't have this one at the same time. Because when you move when you are in here you don't have the vision but if you are here you don't have the vision what it should look like. (selects the right theme, success) So, I don't know. (continues)

(1:05)

R: I think, I think, we stop at this point but I'll ask you some questions. Do you know when we began the testing? And do you know for how long you're playing?

P: Maybe, I think, around, (long) ermm, 9.

R: Could be. Ermm, so, do you have, do you know what's the time now? So do you know for how long we are doing this stuff? Or what do you think how long you are playing.

(1:06)

P: 45 minutes (over 1 hour in fact!).

R: Ok! Have you noticed what was happening around you while you were playing?

P: (smiles) Jakomo finished to wash the dishes.

R: Have you noticed anything else?

P: No!

R: Do you remember how I stood up from the chair and how I moved behind you?

P: No! So, I was really concentrated.

R: And each time you progressed, did you, ermm, were you motivated, like, to continue?

P: Yap!

R: So, what about the rest, so, all in all, what would you say, how's the experience? Did you like the game?

P: Yeah, yeah. No, I like it. It is instructive.

(1:07)

R: So, what do you think, is the purpose of the game? Is there purpose?

P: The purpose of the game is, ermm, to, ermm, different, ermm, Office, ermm.

R: How do you know?

P: Because are only Word, Excel, Powerpoint, is like to understand how to use for different purpose and, so, it's like an educational game. R(1:07:)35: But is this your impression of the game or were you told explicitly that this is the purpose of the game? Ah, no, it's what I understood! Yeah, yeah, no, anybody told me anything apart from Clipper [Clippy :-)], is like, ermm, yeah, ermm, seems that, ermm, what's it called, ermm, is the job of Clipper to make you understand how to use, how to do certain things, so, like give you instructions to do this, then do that and then do that but in this game Clipper makes you arrive, like step by step.

(1:08)

R: In the beginning you said that Clippy was crap—to recap what you said—in the older versions of Word, so you didn't like this whole 'Help by Clippy or dog' thing at all. Do you like Clippy more, now?

P: Yeah, I think it's much better because it's, ermm, yeah, it's more interacting with you. And, yeah, the graphic is much better and you are more involved, you know. Before it was like, those instructions were, ermm, confusing, sometimes you didn't know exactly where [what?] to do, where to push, where to press, you know?

(1:09)

R: So, you're used to older versions of Microsoft Office?

P: Yeah.

R: Which versions are you using or have you used?

P: Now, I'm using 2010 but I don't use those Clipper, nothing because I had, like in my mind, ermm, the memory of the helper that was not very helpful.

R: Do you know that you can install this game for Office 2010, too?

P: Ah, no, I didn't know.

R: Would you do this? Would you continue playing?

(1:10)

P: Yeah, yes. Only if, I think, one thing that is, ermm, this play, ermm, this game is very nice to learn, like ok I've got some spare time and I want to, like not only play just to relax. Play to learn something, no?, like when you play with certain CD for study, ermm, a language. You do for a little bit relaxing but at the same there is an educational purpose.

R: So you find this game relaxing, too?

P: (hesitantly & long) Ah, yes, you know when you do those things like, ermm, well, not, hmm, maybe not relaxing but this kind of things that are, ermm, how's it called, ermm, in English, ermm, like crossword. It's not that relaxing, you still have to use, I mean, your brain, no? You have to remember, you have to, but at the same

(1:11)

R: So, you mean, you need to use your brain when you play crossword or when or you need to use your

P: Yeah, and, as well, here.

R: Ok, so what's the difference for you?

P: No, no, it's this kind of game.

R: Ah, similar, right.

P: But I don't know how it would be useful when you need something, when you are working. So, I'm working, I don't know how to do a certain thing, I can not start to play a game because, ermm.

R: So you wouldn't play this at work?

P: No!

R: Why not?

P: Because I don't have that much time to play!

R: So, you don't feel like playing at work?

P: No!

R: Would you play it in your free time?

P: Hmm, I would but there are a lot of things I would like to do (laughs). But if I would be, maybe a student, you know, with much more spare time, yes!

(1:12)

R: Would you play it in your spare time for the competition if you could compare yourself to somebody else?

P: Yap, also with myself, I mean with myself in the game.

<p>R: Do you think you can do it now, compare your achievements now?</p> <p>P: In which sense?</p> <p>R: So, you said you would play it to get an idea whether you improved, right?</p> <p>P: Yeah.</p> <p>R: Do you think you can get this information now, whether you improved or not?</p> <p>P: Yeah, with the points, I think, it's, ermm, a value that you can, ermm, compare to, for example if I play another time and I see how many points I reach but there's the factor that I could have used the hints or retry and so it's not like very comparable. I don't know if I, yeah, it's true that sometimes no hint used or not but are not that in difference. It's like only 50 points over in total of 250, (long) so, yeah, I would put maybe more, ermm, I don't know.</p> <p>(1:13)</p> <p>R: Would you retry more often if the difference would be bigger?</p> <p>P: Yeah, (pause) yeah. I think I would put the hints just to go to the end but no to have so many points after at the end. And the retry, I don't know, I would gain [give?] points for the retry or if you retry and start again from the beginning. It is strange otherwise.</p> <p>(1:14)</p> <p>R: Too easy otherwise. Ok, cool. I think we're about to finish. Do have any ques-</p>	<p>tions for me?</p> <p>P: So, is there a time or not?</p> <p>R: As far as I can tell there is no time. Any further questions?</p> <p>P: Can you change the music? (laughs)</p> <p>R: Ermm, I don't know. What do you feel? Can you change the music?</p> <p>P: Yeah, there was a "Sound Effects", ermm, no, "Mute" (turns on and off the music many times)</p> <p>(1:15)</p> <p>R: So you want to change the music rather than to turn it off or on?</p> <p>P: Yeah, but it's true, also, that every game has got its own music, also to differentiate.</p> <p>R: Right! So, mean different levels have different music.</p> <p>P: So, no, it's fine.</p> <p>R: If you don't have further questions then we're finished. Oh, I mean, not related to the game. If you want to ask anything else or do you want to comment on anything else, what's on your mind? Is there anything you want to add?</p> <p>P: Why is the name "Ribbon Hero 2"?</p> <p>R: Ok, so you're still wondering what's a Ribbon, actually?</p> <p>(1:16)</p> <p>P: Ah, no, no, yeah, the Ribbon was, yes, this, yeah.</p> <p>R: I'll show you what a Ribbon is and why it's [called] Ribbon Hero.</p>
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B.3. Participant 2

B.3.1. Notes

- "it's like a cartoon"

- in the beginning, participant does not grasp what the comic is all about; also, participant does not know anything about Clippy
- participant is annoyed by the slow motion of the automatic slider but finally discovers that it is possible to scroll
- irritated by instructions from the panel on the right side; there is not feedback for nested steps
- discovered bugs
- participant thinks one levels up by playing all levels, not by earning enough points; not sure what the points are for
- hint regarding the user interface appears in level 3

B.3.2. Transcript

(0:00)

R: So, what I want you to do, ermm, just play the game.

P: Yeah.

R: You play, ermm, and I want you to think out loud. This means everything that, you know, feel, think, do, just put it in words, just describe what you are doing, what you're thinking, what your next step might be, everything that comes to your mind. Just try to think out loud.

P: Think out loud, ok, cool.

R: Ok? And that's it, basically.

P: Even though I don't know how to play I just think out loud?

R: Yeah, that's ok, that's cool.

P: Should I play now?

R: Yes!

P: Ok (clicks "Play"-button). Uh-oh, I don't know how play (watches the introductory comic), just like a cartoon (clicks on a picture from cartoon), "your resume"

(0:01)

P: "Hey Bill, it looks like you're writing a letter! Do you need help [...]?" (clicks several times on the comic speech bubble) Ok, I just, I don't know how to play, so I just click anywhere, I'll see whether it's responding somewhere.

R: So, you think this is the game already?

P: I don't it's game.

R: What do you think?

P: It's a cartoon. I don't know, maybe it's just telling me what's the game about. So, now, there is, "Mom, when's dinner? When are you moving out of [...]. I've had it with you! Don't come back until you find a job!" (00:01:41 interesting pic) (clicks several times on a picture). Very strange, I have never seen a game like this with this beginning here.

R: Do you know who this is in the cartoon?

(0:02)

P: Uh-oh, is it Simpsons?

R: No, have you used an older version of Microsoft Office?

P: No.

R: Like version 2003?

P: Yes, yes. I'm using 2003.

R: You're using 2003?

P: At the moment I'm not using it but before 2007, I'm using 2003 for quite a long time.

R: Ok, remember, remember, I don't know whether it's in 2003 but remember the help system, this.

P: Ah, yes-yes-yes. I remember.

R: Appearing at the bottom, asking you. And when you look at this guy, it's him.

P: (long) Uh-oh. (smiling) So, this is a help system? "Ok, down to"

R: Well, we'll see.

P: "the last one. Hmmm...this looks interesting. Some time later..."

(0:03)

P: So, that's the game you designed, or?

R: No, no, no, it was designed by the Microsoft Office Labs.

P: Uh-oh, ok. Well, saying that, I'm not a good game player. I hardly play a game (smiles).

R: That's alright, that's cool.

P: "Scientist's assistant needed for various experimental projects."

R: So, do you know what the comic tries to tell you?

P: Not really. "Must be proficient in Microsoft Office, enthusiastic, cheerful, and always willing to help others. Submit resume ASAP!" Is he talking about he want to do a resume but doesn't know how to do it.

(0:04)

P: Then, mom just asks for to look a help system, isn't it?

R: I don't know, you tell me.

P: (smiles) Oh no! "My resume is really

out of date!"

R: What do you think about the speed of the comic?

P: It's quite slow. Actually, I was just thinking is there another way to make it faster?

R: Do you see a way how to make it run faster?

P: I think, maybe I can move (points to scrollbar), (long) ahhh. "Hey you, it looks like I need help updating my resume! Would you like to help me with that?" So, there is a "Help Clippy!" (clicks on button). Oops! Did I close something?

(0:05)

P: And I open Microsoft Word! (surprised, smiles). Now, I know. "Clippy" is the person's name. "Change the font of the entire document from Comic Sans to Calibri." I think, probably, this is like a sample of a resume. So, it will show you step by step how to change the entire document. (long) Hmmm.

R: So do you know what you need to do?

P: Yes, it says "Change the font of the entire document from" the, this, then new font, from here (clicks on font selection box) to.

(0:06)

P: (starts typing 'Calibri' and presses enter when it gets selected, success). "Awesome! Now I'll apply for that job." (smiles)

R: Something up, eh?

P: Yeah, you know, I just (laughs), now I click "Continue".

R: That was fast.

P: Hmm, now I know how to make it [the comic] fast. (reads and scroll quite fast

through the comic, clicks) “Continue”

(0:07)

P: “The middle ages. Skill Level 1.” Ok, there is a button. I think I can click here.

“The middle ages. Captain’s log.”

R: Do you know what that is?

P: Don’t know at the moment. “Pie Charts, Sort, Animation, Change [...]”

Ok, is it just teaching you how to change the animations, something like that?

R: I don’t know, you tell me.

P: I think so. All I see, there is a table, so you can change the “Styles”, you can change the format, “Drop” the “Cap”

(0:08)

P: “Ring around the Rosie – SmartArt”, I don’t know about this. “The Knights of the Square Table?” “Knight vs. Dragons – Animations”. “Rat-a-phooey – Sort”. “Robin Hood’s [...] – Pie Charts”. “Hallowed [...] – [...] Highlight.” “Arrange by: ” the “Level, Application”

R: Do you know what that means?

P: Maybe. That’s a game and it tells you what level it is. And that (clicks) “Application”. “Powerpoint, Word”. Does Microsoft, Microsoft thinks (reflective). Should I close it? (metaphorical, closes the dialogue). Uh-oh, ok, click everything here (main window)

(0:09)

P: “[...] Results”, ok, I click this.

R: Was it just based on a random decision, or?

P: Yeah, just a random decision, I just try out everything. “Robin Hood’s Results”, ok, so this is like results of the research to me. Ok, so here they’ve got some instructions. “Present the data in a pie chart.” Ok, so basically they show me

how to present data in a pie chart and, then, that’s the data. “[...] has been immortalized in more than [...]” (reads info bubble, takes notice of flashing ‘Need a hint?’ button). Ok, there’s a “Need a hint?” [button] flashing and I think I will have a look at this (unlocks first hint), “Present the data [...]”, “2 More hints” (unlocks the next hint), “Select [the] cells D8 (clicks on this cell) thru E13”. (10:00) P: what is, “[...] thru E13, D8 thru E13”, ermm, that one (clicks on it), so, “Select the Insert tab” (selects it), “1 More hint”, what am I doing, quick edit (?) (unlocks last hint), “Click Pie”, bracket in “Pie in 3-D” (watches animation from hint, confused (photo)).

R: Do you know what that means?

P: I don’t really know.

R: Do you know what it’s for, what it’s showing you?

P: (watches animation from hint again) Ermm, it just, pff, is that teaching me how to insert a pie, how to bring data in pie format? (clicks on ‘Pie > 3-D Pie’) I click there (success).

(0:11)

P: Uh-oh, print a pie in, “Change the chart layout with one click.” (right-clicks pie chart >) “Change [the] Chart Type”, ok, I know this, so how to change a pie. So now, I can change the chart type to barcode (selects bar chart type), so I’ll try this, hmm.

R: Hmm, what happened?

P: (unlocks first hint) “Select the chart”. “Select the Design (Chart Tools) tab” (clicks) “Design, Chart Tools (2x)” tab, (unlocks last hint, reads/mumbles description) “Layout 3” (clicks few times on

‘Design, Chart Tools’, selects the chart and right-clicks it), but I can go through here, I think it’s the same thing.

(0:12)

P: “Layout 3”, don’t understand what is layout 3 (searches in dialogue, finally closes it), maybe I did something wrong (clicks a few times on chart), so, can’t delete it (deletes it by pressing key on keyboard), then go to “Chart Layout” (selects ‘Page Layout’), click “Layout 3”, well, that’s “Page” (selects ‘Insert’ tab), “Insert”, chart layout 3 (cool photo), “Select the Design”. Pfff, where’s the design, “Chart Tools” (selects ‘Home’ tab).

R: Do you think the instructions are clear?

P: (head-shaking) Not very clear

(0:13)

P: I don’t think it’s clear. “Change the chart layout with one click.” Because it didn’t make clear what layout they want me to change, so then, it says “Select the Design [from] (Chart Tools) tab.” Where’s the “Chart Tools” tab, (selects different tabs) I think it’s from “Insert” [tab], “Chart Tool[s]” (head-shaking). I don’t it’s clear, the instruction, yap.

R: Ok, what do you might have happened? So, because you could select the “Chart Tools” [tab] before, right? And now, it disappeared.

P: Yes, yes! Yeah, because I saw “Chart Tool[s]” before but now it’s disappeared. I just don’t know where to get that.

(0:14)

R: Ok, do you know why it disappeared?

P: (reflective) Ermm, because I deleted something, then it disappeared. Uh-oh, I think it’s probably if you insert a

chart then it will appear (inserts random chart), say for example here, then it’s, ahhh, now I know because “Chart Tool[s]”, it’s only, will be available when you insert a chart. So then, click “Layout 3”, now I know (selects ‘Layout’ tab), layout, well, it’s common layout 3, I don’t know, now I got a “Layout” [tab] but it says “3”. I don’t quite get it! “Layout 3”, is the “3” mean three group, or? (photo!) (clicks ‘Legend > Show Legend at Right’).

(0:15)

P: So, normally, if I don’t understand I will try out, I will not follow the instructions, I would play around myself! Yap! Should I quit, or?

R: No, ermm, it depends on you! Ermm, what you wanna do!

P: Ok, maybe I go for the next one. So, I quit this one. “Are you [...] want to quit this challenge?” (clicks) “Yes”! Ok, then I will try the next one. “This challenge requires the 2010 version of Microsoft OneNote, which does not appear to be installed on your system.” Ok, so I will move on. “The Knights of [...] You’ll learn to use change shape, shape fill.” Ok, let’s play this. “Change the table’s shape from square to round [...]” (randomly selects different element on slide)

(0:16)

R: Do you know what you need to do?

P: (long) Ermm, not really but I got a hint (unlocks hint), “Select the square table.” (selects it) Didn’t right-click (and right-clicks it and searches for something in the menu).

R: Is there a reason why you use a right-click?

P: Because, that's, I, mhhh, remember by heart because that's what I normally do if you want to change something but it doesn't appear here so I will click "2 more hints". "Select the Format (Drawing Tools) tab." Ok, drawing tools tab, there's a format here. "(Drawing Tools)", ok, that's one (points to 'Insert Shapes > Double-Arrow'), where is the drawing tool?

(0:17)

P: (unlocks last hint) "Click Edit Shape [...]", ahhh, that's edit the shape, I got it. (clicks 'Edit Shape > Change Shape') Change the shape to oval (confused, photo).

R: You know what you need to do?

(0:18)

P: Change the shape to oval but I don't really know which shape is overall [means oval, I suppose]. There's no more hint (laughs) but well (clicks on 'Oval'). Uh-oh, got it. (smiles, laughs) So, let's quit [even though there's one more task] (clicks on 'Quit')

R: Do you think you're done?

P: I think so! (takes a closer look at instruction list) Oh no, I don't think so, now, because they got another one. "Change the table's fill from walnut to oak." So, filling will be, not that one, ah, here (clicks 'Shape Fill'), wanna to "oak".

R: So, you [?] what are you searching for exactly?

P: I'm looking for oak. I don't know which color is oak but I can (unlocks hint), I think I've, on the right shape but I just need to (unlocks all hint and watches animation), I know it didn't tell me oak [but it actually points a 'Texture'

at least!], I think oak will be like [?] color (changes to some color)

(0:19)

P: Well, it's not correct so I think think (hovers over different colors)

R: So, you're searching for color, named 'Oak'?

P: Yes!

R: How do you know that it's a color?

P: There's a [tooltip perhaps], it will tell me which color it is, ermm, ok (looks at instructions), which means a texture oak, (mumbles something, finally see 'Texture' sub menu), uh-oh, that's texture, silly me, it's just texture not (select the first but actually wrong! texture, success). Ahh, yeah (happy, photo). "Congratulations", ok, I'm gonna "continue".

(0:20)

R: Hmm, it changed. So, the symbol changed, it has a tick.

P: Ermm, ok, which means whatever I finish it will just tick. Actually, "Completed", "Total points earned", ok, I'm earning "50" points now. So, "You'll learn to use sort." So, now I.

R: Do you know what the points mean?

P: Means that I can, if did alright I get "60 available points", with this one I'm earning 50 points but I don't which [how many] points is [are] available because I didn't pay attention before [but one can actually see the missing bonus points even though it's greyed out]. So, as the game is going now I pay more attention to the little details. "Rat-a-phooey", "Sort the table in ascending order by year." (reads from embedded instructions)

(0:21)

P: (selects appropriate table cells, clicks 'Data > Sort', faced with "wrong path" dialogue). "[...] You're going down the wrong path!" Ok, "Continue". (closes dialogue, clicks 'A->Z', success), (long) got it!

R: So, do you know what went wrong, why it didn't work what you tried?

P: Oh, pff, I did it the other way around because the asked for the ascending but I did the descending [explanation is actually wrong!]. So, then, "No hints used", "10" points, "+", (long) cool, so (continues).

(0:22)

P: So, another one! So, I didn't use hints so that why I got extra bonus points, probably, "60", so now I understand the points, like if I've done the right I will earn the points if I know I don't use a hint I will have an extra bonus. Good! So I will try to not use it in order to get maximum points. "You'll learn to use ink to text, highlight."

R: But do you get an idea what the points are for?

P: Points are for, ermm, whatever the question they ask, so say. "Convert the handwriting to text automatically." So, I don't really know about this! "Highlight the text under the first foto."

(0:23)

P: I will need a hint because I don't really (unlocks first hint). "Select the handwriting under the Reims photo." (selects one letter from handwriting, clicks several times, confused, types something and deletes handwriting thereby) I think I deleted it but I can undo it.

R: Do you know what to do next?

P: I think next are quite, now I understand, maybe I just need to put whatever the handwriting in the text, so it's "Kings of France are [it's actually 'were' but the first is highlighted (inverse) and difficult to read] crowned here"

(0:24)

P: (types the previous sentence neglecting 'automatically' but nothing happens) So, let's undo it. Ok, I need another, one more hint. "On the Tools menu, click Convert Handwriting to Text." (clicks several times on handwriting and finally selects letter 'e' from word 'were') (long) Ahh, I didn't realise (clicks 'Tools > Convert Handwriting to Text').

(0:25)

P: "Highlight the text under the first photo." (selects the converted word plus the unconverted text, clicks 'Highlight (Yellow)') uh-oh, got it!

R: Did you know that you can do that?

P: Ermm, the first one I didn't know because I never used it but the second one I know. Well, I didn't get the extra bonus for not using hints (laughs). Let's do the next. So, "Knights vs. Dragons", "You'll learn to use animations". Well, I don't really know about animations.

(0:26)

R: So you want to learn it?

P: Yes! "Apply the Fly In animation to make the knight charge at the dragon." (looks confused) I'll definitely [?] (unlocks hint) so "Select the knight" (selects the dragon!, unlocks next hint), "Select the Animation tab", where is animation tab, ah, here, (unlocks last hint) "[...] click Fly In" (goes back to watch instruction animation, clicks 'Animate >

Fly In', success although it's actually wrong!), (long) yeah, oh, they got animation time. "Change the effect options to make him fly in from the left."

(0:27)

P: Option tab (right-clicks the dragon), I try to figure this out by myself. Effect option, where is effect option? (clicks again on 'Animate') Must be somewhere there. (clicks) "Picture Tools", "Picture Styles", (long) no, still animation, (clicks) "Custom Animation", oh, there the effect option.

(0:28)

P: (clicks 'Add Effect > Motion Paths') What they say? "[...] make him fly in from the left." Is that one (clicks 'Left' but no success), not correct, ok, let's not waste time (unlocks hint), "Select the knight" (selects the dragon), "Select the Animations tab" (moves mouse to animation tab and back to hints, unlock hint), "In the Animations [...] Custom Animation", that's what I did! (clicks around, unlocks last hint) "In the Direction list, click From Left." Where is the direction list?

(0:29)

P: How come I don't see the direction list [because it's simply not there! after applying a motion path], is it because of this (clicks 'Path', clicks around, closes and opens 'Custom Animation' again).

R: So, what's the problem here?

P: The problem here is accessing the direction list but I didn't see direction list. Ermm, maybe it's here (clicks around, right-clicks motion path effect element from list), (clicks) "Effect [Options]" (closes the dialogue again), couldn't fig-

ure that one. Did I do something, "In the Direction list, click from the left." (closes and opens 'Custom Animation' again) Try it again!

(0:30)

P: (magically, the first element in the 'Custom Animation' list is selected which offer a 'Direction' drop down) Uh-oh here, I got it, (selects) "From Left" (success).

R: Do you know what changed because you were looking there before

P: Yeah, don't really know. (closes and open 'Custom Animation' pane a few times: no 'Direction' drop down, clicks on list items) Ahhh, so you have to, if you click this there a 'Direction', if you click here a path, I think probably the first one is the direction and the next one is the path. "Use the Ribbon to preview the animation." (clicks 'Office' icon)

R: Do you know what that means?

P: Oh, here! (clicks 'Preview', happy, smiles)

(0:31)

R: Do you know what a Ribbon is?

P: Ribbon is, I know Ribbon is, this one is a Ribbon (points to 'Preview' group in Ribbon), this area is a Ribbon (points to the actual Ribbon this time).

R: So, like the whole thing, all of them?

P: Yes. No, I think Ribbon is this one (points to 'Office' icon), uh-oh, no, no, the Ribbon is this box (points to Ribbon again). Actually, this is not 2003, this is 2007, isn't it?

R: Yeah, this is 2007. I just asked, before, whether you used Office 2000 or 2003.

P: So, (clicks) "Continue". "You'll learn to use styles, clear formatting, drop cap."

Let's play this! This sounds easy! "Apply the Title style to 'The Canterbury Tales' on [...]", "Title style".

(0:32)

P: (whispers) "Title Style" (looks confused/reflective, clicks a few times on the example), don't really understand this, (unlocks first hint) "Select the title paragraph [...]", (tries to select the title from the example but ends up selecting the real text instead), (unlocks next hint) "Select the Home tab" (clicks on 'Home' tab), uh-oh, now understand, (clicks 'Align Text Right') "Left", will be, (real text + example are both on the right side mixed into each other) let's (clicks) "Undo", go back with hint (unlock last hint).

(0:33)

P: "In the Style gallery, click Title" (text still selected, clicks title, success but whole text is in title style). Oh ok, I think, first I didn't quite understand the question, really, now I know they wanted to make the whole paragraph make it in title because I saw that there is only title there, yeah.

R: Ok, so when you look at what you achieved, do you think that it's supposed to be like that?

P: Not really because I thought title should be the title, not the whole thing (thinks about it for a sec but ignores it in the end). So, it says "Clear the formatting of the body text." "Clear the formatting of the body text." (thinking)

So, now it's become, so maybe that's the

(0:34)

P: (tries to select the example but fails, unlocks hint) "Select the body text."

(tries to select the text from the example but fails again) That's un-selectable!

R: Do you know why you can't click the other one (as tester is looking at the real text already)?

P: No! I don't know why I couldn't select the body text.

R: Do you know what you need to select?

P: The text. (select actual text) But this is already title so it's not text. But I don't know how to select the text, now. (unlocks all hints) "Select the Home tab." "[...] Clear Formatting." (clicks on 'Home' tab and after some search 'Clear Formatting', success)

(0:35)

P: Well, it says I did it but I don't quite understand (as nothing changed basically) because before it just says title, then it says text. I feel a little bit confused which is the body of the text? And "Turn the first W into a Drop Cap", "first W into a Drop Cap" (tries to select the "W" from example which is a drop cap, already). So, I know I want to up set it down [?]. It's will be under formatting, I think. I think I'll need a hint. (unlocks all hints, incrementally) "Click inside the body text", "Select the Insert tab", "Click Drop Cap [...]"

(0:36)

P: It says 'select inside' (which is not true, tester mixed 2 instructions here; selects 'Insert' tab), "Click Drop Cap [...]" Where is 'Drop Cap', ah, here. (clicks 'Drop Cap > Dropped', success).

R: Are you satisfied with the results?

P: Not really because it doesn't make it very clear.

R: Do you think you learned something

from this level [challenge]?

(0:37)

P: Yeah, I learned something, yes, I learned something but I just, I don't think the question is quite clear. Yeah, because I learned I something, I know how to use "Drop Cap", I know how to clear the formatting, I know how to apply the "Title style". With the first one, I really know how to do it but I just don't understand the question, yeah.

R: Do you, have you just noticed that there was a "Retry" button and "Continue"? You just clicked "Continue."

P: Yes, I didn't realise there is a "Retry" button, yeah.

R: Do you feel like retrying levels?

P: No!

R: Ok, that's good, just continue the way you want to.

P: Yeah, I think this is probably the last one. "Ring around the Rosie", "You'll learn to use smartart."

(0:38)

P: What does smartart mean? "Insert the SmartArt graphic called Text [...]" (opens 'SmartArt' dialogue, clicks on each item in the list)

(0:39)

P: Ok, "[...] graphic called Text Cycle", I really don't know which one is "Text Cycle" but I think I'm on the right track but I still don't know what is, ok, let's (mumbles something, tries to unlock hint but can't) ok, which means I have to close that, (unlocks hints) "[...] Insert tab", "Click SmartArt", "[...] Choose a SmartArt Graphic dialog [...]", click Cycle on the left, [...]" (open 'SmartArt' dialogue, again) But there's no "Cycle" on

the left, ah, it's this one.

(0:40)

P: (searches for the right graphic by hovering over each one and waiting for the tooltip to appear as it contains the name) ahhh, got it! (success) "Add" a color, "accent colors".

R: Is the instruction as such clear to you?

P: Yes, it is clear. I just didn't see "Cycle" before. It's like the water [?], it's not corrective [?]. It just said add the color, accent color, it's just add, add a color, "Add Shape", [?] (hovers over different buttons in Ribbon), (clicks) "Change Colors > Colorful – Accent Colors" (success), ok.

(0:41)

R: Did you know that this will work? Was it clear to you or you just basically figured out by trying?

P: I figured out by trying for this one.

R: So you weren't really sure?

P: Yes because it just says add a color, 'cause here it just says change a color, so I was thinking maybe not that one but I couldn't find add color so I will try it, yeah. When I try it, because all those were not colored but this one said colorful so maybe, I think, it is, so I try it. "Add the White Outline style." "Outline style" (changed the colors black & white). Not that one.

(0:42)

P: (clicks button next to 'Change Colors' in 'SmartArt Styles', success but it's the wrong one, actually!) Ah, "White Outline style" is here. Yeah, so for this one, I just, by trial. "Add the White Outline style." Yeah, but, so with this [?] finished just how to, how to do the text.

R: So you think you can use this new

knowledge in your day-to-day work.

P: Not really because I'm using Excel more than Windows [Word?] but for Windows play once and I remember. I think Windows is easier than

R: You mean the whole Office?

P: Yes, the whole Office one.

R: But if there is some Excel related stuff you can use it, like you played one level which was Excel related, right?

P: Yes, yes because I'm using more Excel than Windows [rest of Office?]. But for Windows, I was just thinking that it's pretty straight forward that if you know where to find it it's quite easy to learn.

(0:43)

R: So, so, when you say Windows do you mean, like Windows for me is the operating system or do you mean Microsoft Office?

P: Sorry, Microsoft Office!

R: The whole suite, right?

P: Ermm, sorry, I don't mean Windows but Word. Not Windows, sorry, Windows is the thing. Because I'm using Excel more than Word but for it's [?, probably 'quite useful'] if you knew where to find that then you play once and you remember next time. Yeah, that's what I find. (completed level 1) Uh-oh (long).

R: What's happening?

P: "Congratulations" that "You've leveled up!"

R: You know why that happened?

P: Because I finished all the level 1, because I finished everything, it's all ticked and done and I'm going to another level (actually, tester left out one challenge) which I'm quite excited [about]. (watches/reads comic)

(0:44)

P: (continues) For the level 2 the first thing I noticed is here, just, you can go back, go to the previous level (a hint showed up for a few seconds). Again, now I'm familiarised with

R: Do you know why you can do that?

(0:45)

P: I think, maybe if you feel it's too much for you then you can go back to level 1. Maybe, level 2 is based on level 1, so if you're not familiar with level 1 then you'll have difficulty in level 2, that's why they say you can go back a level. I think when I choose I work assuming from left to right, it will be, will be like from easy to difficult level, I'm just assuming.

R: So, you're just assuming?

P: Yeah.

R: Is there anything that kind of communicates that to you? Why do you think that?

P: I think, it's, ermm, a habit because when we're reading in China we're reading from left to right, so it's like a habit to do it that way, then you're presuming [assuming?], actually, maybe it's just all the same level and just different things, I don't know.

(0:46)

R: So it's not from the top to the bottom?

P: No! (laughs) "Longest Reigning [...]", "You'll learn to use chart types, chart styles." Yes, I remember in level 1 we've already done that. Maybe, it's higher level, let's see! "Change the chart type from Pie to Clustered Column." (right-clicks chart > "Change Series Chart Type...", success even though task is not

fulfilled, technically) Oops! (continues with the next instruction) “Apply a chart style.”

(0:47)

R: You said ‘oops’. Why did you say ‘oops’?

P: When I say ‘oops’ I just say I didn’t even realise I have already accomplished that task, the instruction. (changes the chart type anyway and clicks ok) And that[’s done], so I have already done the first one. “Apply a chart style.” What [do] they mean [by] “Apply the chart style”? I’ve already done that I thought. Well, ok, then I can go here (select chart, moves mouse to ‘Style’ group in ‘Home’ Ribbon), the style button but it’s, ermm, maybe I have to undo it (performs undo but Ribbon group doesn’t change). “Apply a chart style.” I don’t know why! (clicks around starts reading speech bubble) “Did you know that the term [...] originally referred to the king’s [...]”

(0:48)

R: Do you know what that’s for, what you just read?

P: So, I think this one just tells some background of the story. Because it just say “Apply a chart style” then the chart style is in green (points to ‘Styles’ group in Ribbon), so I think I will use a hint (unlocks hint), “Select the chart”, which I already did (but does so again, unlocks next hint).

R: How do you know?

P: Because I already did a chart, select it, then “Select the Design [...]” one.

R: So, this is enough for you, you just click and you know that you’ve selected it?

P: (nods head, select ‘Design’ tab) “Select the Design (Chart Tools)”

(0:49)

P: (moves mouse pointer over each Ribbon group but does not notice ‘Chart Styles’) where is ‘Chart Tools’, (finds it) ok, that’s “Chart Tools” here, ok, then “Apply a chart style”. Ah, the styles here (notices the group).

R: So you were irritated by “Chart Tools” and “Design”, how come? So, when you read “Select the Design (Chart Tools) tab” you were irritated how to select it and where to select it.

P: Yes!

R: Is there a reason why you were irritated?

P: Yes, because select the “Design” and then there is a “Chart Tools” so I was thinking maybe “Design”, the “Chart Tools” is under “Design” and then I just realised the whole thing is “Chart Tools” and “Design”. Then, now I saw “Chart Styles”. (select one chart style, success) So, ok, got it!

(0:50)

P: “Apply a built-in theme to this presentation.” (clicks several times on embedded example but nothing happens) Don’t really understand this! Oh no, I just don’t know how to do this. (unlocks hint) “Select slide 2”, “[...] built-in theme [...]”, (unlocks next hint) “[...] Design [...]”, ok, now I know what they are [?] (selects theme, success), oh, done already.

(0:51)

R: How did you know which design to select?

P: I just see that design here (points to

‘Design’ tab).

R: Ok, you just selected one design but random?

P: Yes! (by unlocking last hint tester triggers a different view for end result) Oh, total points are 200 (continues). “[...] margin, orientation.” “Use a Ribbon command to make this document’s margins narrow.” “Ribbon command to make the document’s margins narrow” (surprised), I need a hint (unlocks first hint).

(0:52)

R: So you don’t care that you don’t get extra points when you use hints any more?

P: No. Because if I’m not familiar with [it] I don’t really care. (selects) “Page Layout” (tab, unlocks next hint) “Click Margins > Narrow”, (follows instructions) ah! “[...] orientation to landscape so the table fits better.” (clicks ‘Orientation > Landscape’) Ok!

(0:53)

R: This wasn’t hard.

P: Yes, yes. That’s not difficult (continues) but I didn’t earn the extra points. (laughs) “You’ll learn to use remove tags [...]”

R: Do you know, by now, what the points are for? Because you’re collecting points with each level that you play but do you know what it’s for?

P: Maybe by the end of the game it will tell me which level I’m in. “Select the first list and remove its tags.”

(0:54)

P: (selects some text, searches for something useful in UI) Remove tags, I’m not familiar with that. (unlocks hint) “Select

the 3 lines in the first list.” (does so and directly unlocks next hint) “On the toolbar [...] Remove Tag”

(0:55)

P: (selects first list’s title and 2 of its items, looks around in UI) So, when they say “Select 3 lines in the first list”, I suppose it’s this (select the 3 lines again), then they say “On the toolbar” there is a “Remove Tag” (ignores part of the instruction pointing to ‘Tags > Remove Tag’, watches instruction animation but ignores the required information again so that tester can’t find the appropriate button) Ok, but I didn’t see this [mumbles something] (discovers ‘Tag’ button), (clicks) “Remove Tag”. Got it! I don’t think that the instructions are clear but I figured out by myself. (tester used all hints!)

(0:56)

R: Why do you think that it wasn’t clear?

P: It says on the toolbar remove the tag, then I couldn’t find the “Remove tag”, the sign [icon?] but then I saw the “Tag” [icon], then I try it and I see the “Remove Tag”

R: So, you always expect to find button with a label that, you know from, you’re reading the instruction and you expect to find a button which is labelled like with the text that you just read?

P: Yes, yes! It would be easier. Ermm, “Tag each item in the first list as To Do [...]” (confused), “Tag each item in the first list as To Do (or the first tag in you list).” (clicks on ‘Tag’ but no success even though list changes to ‘To Do’)

(0:57)

P: (hover over the just clicked button)

“[...] (To Do)”, ok, I have already done that! (confused) but I don’t know, ah, ok (clicks on to do list item so that they get a tick but no success). I have already done that but I don’t know why. “[...] in the first list”, (open ‘Tag’ drop down, notices a ‘To Do’ button and clicks it, success) “To Do”, ah, ok, got it!

R: Do you, when you look at the result, do you know what happened, what changed and why your approach didn’t work or whether it’s the same?

P: I think it’s the same points, isn’t it? As long as I’ve.

(0:58)

R: I mean, you clicked on each item and you marked them, kind of as done but this didn’t work for you and then you clicked on the ‘Tag’ button at the top and then clicked on ‘To Do’. And do you know what this made or what you achieved by doing, clicking on the ‘To Do’ button?

P: I was supposed that they want me to click the ‘To Do’ not manually tick it because I thought by manually ticking it’s like ‘To Do’ one but it’s not working out, I didn’t get the bubbling, you know the, so I tried it again. But I think to me it’s the same result, I don’t know why, yeah.

R: So, when you would do it again, ermm, but say you would use this thing just for your personal to do list would you click each item separately, would you use the button at the top?

P: I would use the button at the top?

(0:59)

R: Why?

P: Because that’s what I told, now, yeah, because I was thinking, yeah, that’s the

correct way, maybe the way I’m using it correct.

R: But you sound like, it sounds like you’re not really sure? I mean, you just said you will use the button, ermm, sorry, the way that you just learned now because you think the way you were using it before is probably the wrong way. But you sound a little unsure. Is it really the wrong way?

P: Yes, yes, I’m not quite sure but I suppose because I’m not familiar with that then I will, even though I’m not sure but I was thinking, maybe that’s the correct way because I’ve been taught now. (continues) “Famous Mummies”, “You’ll learn to use slide layout, hide slides, duplicate slides.” Ok!

(1:00)

P: “Change the layout of this slide to Title Only.” (clicks around but without success) “Change the layout of this slide to Title Only.” I remember I learned about “Title” before.

R: So you think it’s related to a level you did before?

P: Yes, I think so!

R: How come that you think so?

(1:01)

R: Because that’s just an instruction that sounds similar to what you’ve done before, or?

P: Yeah, I think it sounds quite similar to an instruction before. Now, I found it, (clicks) “Layout > Title Slide”, (long but cautious) yeah, because it’s all Word at this one point because I was thinking it’s all quite similar, layout is a similar function. “[...] so it doesn’t appear in the slide show.” (hides slide 2 as per instruc-

tion, success) Done, done.

R: You knew how to do that!

P: I don't know because I'm not familiar with PowerPoint but I know how to hide in Word (does Word have a 'hide' function?) and then I was just thinking it's the same thing. "Duplicate slide 3 with just one command."

(1:02)

P: Duplicate it?! (right-clicks slide 3, clicks) "Duplicate Slide" (success) So, for duplicates I kind of know it from the past, so, but not in 2007, 2003 and then I was thinking it's probably the same.

R: Ok, so it's basically past experience.

P: Yes.

R: Hey, you gained extra points.

P: Ah, finally! "You'll learn to use changing text." This sounds easy! "Replace the word" (selects 'saunter') "with a different word with the same meaning using just the right-click menu." Ok (right-clicks word), that's "Synonyms", I know it's this one (clicks "Synonyms > 'stroll'"). Yeah! I think, this one I know by past experience. (continues) (fails activating a challenge) "This challenge re[...] ", ah, ok, it requires 2010 but this is 2007, that's why I couldn't use.

(1:03)

R: Do you, do you, before, in the first world you said you advanced because you played every level, right? Now, you played every level, too. You know why you're not advancing to the next level, the next world?

P: I don't really know. Maybe, there is only 3 levels. No, I don't know why I'm not advancing. Maybe, there's only 2 levels.

R: Do you know when you look at the top right corner

P: Oh, there I got another one not finished yet.

R: Oh yeah, that's true. I actually didn't notice it, too.

P: That why not progressing me to the level (laughs).

(1:04)

P: "Add data bars to the table." (clicks around) "Add data bars to the table." So (select table cells), (clicks) "Insert" (tab), (clicks) data "Bar" (> '2-D Bar' but no success). But why? Why I don't have points?

R: You were pretty sure about that this one will be the right solution, right? So, you sounded so sure.

P: (long) Hmm.

R: Now, you're irritated. Ok.

P: But then, it didn't work out that way, so (reads carefully) "Add data bars to the table." (clicks around) Ok, let's [click] "Need a hint?" "Select the numbers in the table." (follows instruction, unlocks next hint) "Select the Home tab." (moves pointer into the right direction but returns to original position as notices that tab is selected already)

(1:05)

P: unlocks last hint) "[...] Conditional Formatting > Data Bars > Orange Data Bar." (clicks) "Conditional Formatting > Data Bars" (moves pointer to other menu without noticing it and selects the 'Color Scales', clicks 'Conditional Formatting > Data Bars > More Rules > Bar Color > Orange', no success) why still not? (repeat actions again but clicks the right button this time)

(1:06)

P: Orange, this is not orange, ah, this is orange. Hmm, strange!

R: Why, what's strange?

P: I don't quite understand the question because it says "Add data bars to the table."

R: Ok, and then?

P: I understand this, insert a data [bar], convert this data to a bar chart. Now, that's actually not [what] they asked, it just says "Add data bars to the table. [...] Conditional [...]" I still don't understand why this is related.

R: Ok. Do you know what you achieved? Do you know what you just did? Do you know what, yeah, do you know what you achieved?

P: Yes! Because, ermm, "Conditional Formatting".

(1:07)

P: Because I know "Conditional Formatting" is that you can format with whatever condition you asked by putting different color. But I don't think it's related to the question!

R: Ok, how come?

P: "[...] data bars to the table." Why [are] they called data bars, why [are] data bars related to "Conditional Formatting"? Because to me, "Conditional Formatting" is, let's say you highlight something, highlight for every number above 100, that's "Conditional Formatting" to me but this is not.

R: So, just what you did: when you look at the numbers you see there's a bar representing the number, so, it's not really possible to see because it's hidden this thing but this is what you actually did,

add the bar to the number.

(1:08)

R: But, yeah, you said you're confused by the "Conditional" label.

P: "Conditional", yeah, yes. Now, they're just making the number as a bar. So, if they asked in a different way maybe I'd have a better understanding.

R: So, you really wanted to show or draw a chart. This is what you were so sure about, right?

P: Yes, yes! (continues) (long) Uh-oh. Now, I am, "You've leveled up!" (smiles) Because I finished everything in 2, now I'm in level, skill level 3, yeah! (reads comic) "Thank you for volunteering to be the first" blah blah blah. "Let me out of this mummy suit!"

(1:09)

P: (mumbles something, scrolls to the right, continues) Look, another one going back! (points to the 'Back' button) (takes a closer look at the to right corner, the points bar) Oh, now I know!

R: What, what exactly, what do you know? If I finish level 3 I will have "5000 pts". So far, I'm at "1820". So, I'm assuming that the level 3 points is "5000" minus this (points to '1820') but that's not very important I think. "You'll learn to use remove duplicates, sort." "Remove duplicates from the table."

(1:10)

P: So, by remove duplicates, oops (clicks & drags embedded example)

R: So, you clicked above this. Do you know why it's there, you know, what you just clicked?

P: Ok, I, actually, I thought this is the table but then I realised this is a whole

picture, the table is below.

R: Do you why the picture is there?

P: Ermm, it's just showing me "Top songs of the 60s".

R: Ok. When you look at the picture, at the top, it contains numbers 1 and 2 and then when you look at the instructions there's also a number 1 and number 2.

P: I think it's basically the same but because I always prefer here I was looking here.

(1:11)

P: "Remove duplicates from the table." So, for me to remove duplicates you have to sort first. So, let's try! (clicks) "Data (tab) > Sort" (faced with 'wrong path' dialogue) "Wait, [Wait,] Wait! You are going down the wrong path!" Ok (clicks 'Continue', closes dialogue), maybe that's not correct. I need a hint (unlocks hint) because I know how to remove duplicates from a table, for numbers but not text. "Select the table" which I've already done, (unlocks hint) "Select the Data tab", (moves pointer to tab and back as it's already selected) "Data tab".

R: So, you said you know how to remove [duplicates] when it's about numbers but not to remove duplicates, ermm, and when you remove duplicates in numbers, you first sort the table and then you remove the duplicates?

P: Yes! So, I didn't realise there is a (clicks 'Remove Duplicates'), didn't realise there is a button that can help to remove that. That's something new I learned (proceeds with removing duplicates) which is good.

(1:12)

P: Ah, it's automatically. "Sort the remaining rows by song title." Well, I think I know this one! "Sort" (after a bit of searching tester finds the 'Sort' button, clicks it and is faced with 'wrong path' dialogue) Again, I did it wrong. (surprised) (continues but does not close the dialogue) "Sort by > Song Title", I think it's correct (clicks 'Ok' but no success, clicks 'Undo'), hmm, not correct (even though it was!). "Sort the remaining rows [...]"

R: So why do you think that it's not correct?

P: Ok, does that mean, filter "[...] the remaining rows by song title" (confused)

(1:13)

P: (select 'Song Title' row) I don't know why it's wrong (clicks on 'Sort' button again, faced with 'wrong path' dialogue, continues and closes the sort dialogue, too), so.

R: The first time what you did, you selected this menu and then selected, ermm, sorry, sort by title and it actually changed the table but you didn't win.

P: Yes!

R: So, I guess you knew that you didn't win because it didn't make this funny sound and you didn't see the animation.

P: Yes, yes.

R: So you are assuming that you did something wrong?

P: Yes! So I need a hint (unlocks hint). "Select the remaining rows." Does that mean here (selects the empty, previously removed rows, unlocks next hint) "Select the Data" bar [tab], (unlocks last hint) "Click Sort A to Z" (does it, success although sorted empty rows) (confused).

(1:14)

P: Oh, now I know.

R: But when you look at the table in the background, it's not sorted actually.

P: Yeah, it's not sorted. That's why I'm thinking I've already sorted it because it's not through [?, probably 'A - Z'] this data, that's why I tried to sort it, then it didn't work, then I was just paying attention to the remaining rows.

R: But does it make sense to, so, the remaining rows are, for you, are the empty rows?

P: Yes because this is not working, I'm presuming [assuming] remaining rows.

R: Ok but they are empty, right?

P: Yes! They're empty that's why it doesn't make sense to me.

R: Doesn't make sense, no.

P: No, no!

R: Ermm, just, I think, I think this is enough for playing, so now, I'll just continue asking you a few questions.

P: Yes, yes, yes.

(1:15)

R: Have you noticed how, what's the time, so how the time is passing? Do you know for how long you are playing?

P: Not really.

R: No, not really.

P: I think definitely more than one hour now.

R: Yeah, ok.

P: It's quite a long time.

R: But you just think, so you don't know?

P: No, no, I don't know because I think as you play it's quite interesting and when you're interested you lose track of time.

R: So it's motivating you and you want to continue playing it?

P: Yes, yes, yes.

R: Yeah, basically your assumption was right. It's been more than an hour so far. So, you would continue playing this?

P: Yes, I will, yeah because I found that I learned something new, that's why I'm thinking I will continue to play.

R: So what do you think is the purpose of this game?

P: The purpose of this game may just [be to] teach how to use Word, PowerPoint and Excel. So I think they try to use animations to motivate you to learn.

(1:16)

R: So you just said you would play it, so I guess you would play it your free time.

P: Yes, yes. Ok, I will play it in my free time but I, sometimes I prefer to learn by myself and not looking at that because if your looking at instructions then you have to understand the question first. It just would be time consuming. So, if I finish this I won't play myself but because of this one, when I'm playing this one because it's quite interesting, that's why I lost track of time, I wanted to play more but if I finish I won't play in my personal time because I'd rather learn and figure out by myself things.

R: Right.

P: Yes, yes, it will be quicker.

R: Ok. So you say it will be quicker if you just, if you wouldn't use this game but you have a task.

P: Yes.

R: But do you have like, you said you would play this game in your free time, ermm, but, ermm, if you really would want to learn something you would just take the task and try to use the user in-

terface and you will learn by that.

P: Yes, yes.

(1:17)

R: But do you do that in your free time?

P: Not really, only if I got a task.

R: So if you need to prepare for an upcoming task that you need or will come up?

P: Yes, yes.

R: Alright.

P: Then I was thinking I will use Google search, so if I don't know how to use it then I use Google search then.

R: So this is how you normally learn?

P: Yes!

R: So do you feel like the way you're used to learn, so far, is more effective than using that [system/game]?

P: Yeah, I feel that.

R: Why is that?

P: Because for that you have to understand the instruction first. Then it's taking time.

R: But if you need to understand the instruction, I mean the instruction is like the task at hand, right? So if you have an upcoming task you need to understand what is the task?

(1:18)

R: So, how is that different from understanding the instructions?

P: Because when I understand an upcoming task than I know what I want to achieve. Than it will be easier for me to do a Google search whereas with this one I don't really know what I want to achieve so I have to understand the instruction first. Sometimes, if I'm not on the right track so I didn't get things done so I have to.

R: Right, right. Hmm, ok.

P: But I think I learned something from this, definitely.

R: Do you think or would you use this game at work to learn?

P: No!

R: Why not.

P: It's time consuming.

R: Time consuming?

P: (nods head)

R: Do you think there is way how you, ermm, how it can be changed so that it's less time consuming? Or what's your problem with this approach?

(1:19)

P: Ok, so I think the better approach is just telling us each one of them, so by order, so explain to us which group has what kind of functions. Yeah, I think that way it will be easier.

R: Ok, so that you can really go from the left to the right in this top menu here and learn what each button will do for you?

P: Yes, yes. Or I can self-learning, I can, looking at this, I play around. Yeah, I found if you try yourself play around than you understand.

R: Ok, so you think you can learn the full potential of Word or Excel, whatever, just by playing around with the buttons and clicking here and there.

P: (nods head) Yes.

R: Ok, interesting. Ok, cool. Ermm, I think I can't come up with more questions for now. And that's basically it. Ermm, do you have questions for me?

P: Ok, I do have a question for you. When I'm playing what do you observe, what kind of thing do you observe.

R: Oh, so you want to know my results.

P: Yeah, yes, yes, yes.	we just did.
R: Ok, we leave out this question for now	P: No, thank you.
but is there anything else that you want	
to know, regarding the process or what	

B.4. Participant 3

B.4.1. Notes

- participant has no idea why the comic is there
- would use it to learn more about Microsoft Office
- found bugs but is not really irritated, so continues
- the 2. task does not make sense because it asks for cycle but he created boxes
- instructions on the top and on the right side do not contain the same information (in certain cases)
- difficult to follow for tester, especially when other windows hide top instructions
- speeds up, more confident, “is good”; understands the game mechanics better
- sub instructions contain useless instructions, participant always follows each step from the instruction list
- game crashed
- points basically un-noticed, meaning not clear until asked or explained
- thinks to win/complete the game it is required to complete all levels or tasks (green tick)
- found unrecoverable bug
- wants to continue
- irritated why he does not need to play all levels
- would use it to learn, even at work

B.4.2. Transcript

(0:00)

R: Ready when you are. Do you have any questions before we start?

P: Really, as I told you, I never play, never play. I really don't like it. I don't use (interruption).

R: Ok, So you don't like playing games?

P: I don't like playing games.

R: Is there a reason you don't like playing games?

P: I think, it is because I choose to. It doesn't interest me at all. Even when I was little, never, never, never. Really, so I never play. I never had a particular interest in that.

(0:01)

R: Ok.

P: Ok, ermm, play?

R: Yes.

P: (clicks)

R: And remember, tell me what you think.

P: Ok (reads comic). Ok this is (mumbling). Ok, I have to read everything or is just..?

R: It depends on you. If you want to read it you read it. If you don't want to read it, you just tell me why you don't want to read it.

P: Ok ermm, alright (continues to read comic). It's a lot of words there so I have to make some jumps (mumbling). Oh really this is funny man (laughing).

(0:02)

R: Do you know who this is in the comic?

P: No, really. I don't watch cartoons. I don't.

R: But have you used older versions of Microsoft Office?

P: No, really because of work, I hardly

use Microsoft Office. Not really.

R: Ok.

P: Yeah, so,

R: But you use it from time to time?

P: Yeah, sometimes. From time to time just maybe Word I use. Yeah no, just to.

R: Do you know by any chance which version of Word you are using?

P: Ouph! You got me, man! No.

R: No, no. That's cool, that's all right.

P: "awesome, mom when's dinner? When are you moving out of my basement?"(reading)

P: Ok, what else I supposed to do? Just keep looking ermm?

R: You tell me. Just whatever you do just tell me.

(0:03)

P: Ok.

R: If you want to continue, if you want to make faster. You just do what you want to do.

P: "I've had it with you. Don't come back until you find a job. classifieds" (mumbling). Really, as I said to you, I don't play so for me right now, this just a little comic is coming now.

R: Do you know why there is this comic? Do you know, I mean, what's the purpose of this comic?

P: "some time later" (reading). Ok, ermm (reading).

R: So, any idea why the comic is there?

P: (shaking head & taking a deep breath)

No idea really.

R: Ok.

(0:04)

P: (finishes reading comic & clicks on "help click" button. Video window closes and loads Word) What's up now?

(0:05)

P: (Clippy's Resume loads in a Word window) (mumbling) Alright, ok, ermm (scrolling up and down) "change [...]" (reading instructions, then laughing intimidated). Really I don't know. "To obtain a part-time job in the software industry or as a private tutor helping people write letters. This position should have opportunities for a competent, Experience: Microsoft Redmond, part time position" (scrolling up and down again).

R: Do you know what to do next? (tester scrolling up and down)

P: Really I don't see what else could be ermm, I don't see it as a game.

R: Ok, you don't see it as a game. But why not?

P: Because, hmm yeah I don't know, because there is nothing to play with.

R: Ok, but you said you never play games.

P: Yeah

R: How do you know what a game is like?

P: Ermm because I could imagine how it could be, but ermm,

R: How do you imagine it would be?

P: Ermm..I don't, pretty much where I reckon this is just instructions (pointing to instructions with the mouse).

(0:06)

R: Yeah.

P: "Instructions. Change the font of the entire document from Comic Sans to Calibri." Ok, let's try here (clicks onto flashing 'need a hint' button). "Select all this text". Ok I think I got you now. (scrolls up and clicks onto text, which flashes red)"Change the font of the entire document"(reading initial instructions again).

Really, really, I don't, I don't know what you are trying to do here. Ermm, "Comic Sans". Maybe I am not helping you at all Juli.

R: (laughing) Don't worry it's not about your performance.

P: Yeah.

R: It's really what about you're experiencing. So, whatever you do, whatever you say it will be helpful. Trust me, it will be helpful.

P: I'm trying, (scrolling up and down)

R: Just, just tell me what you're thinking. So what's going on? What's happening?

(0:07)

P: Ok, this I work on here is just like kind of a CV, a resume, and ermm, so, "intern during summer college".

R: I mean ermm, games normally have some rules, right? You need to do something to win.

P: Yeah.

R: Do you know what you need to do to win this one?

P: Ok, "change the font"(reading). No, I don't know.

R: You noticed, you read several times "change the font" and there's a number one in front of this right?

P: Yeah.

R: So this is like a instruction

P: Yeah

R: If you read that, is it clear to you what you need to do?

P: Change the font of the entire document. Yeah, "from Comic sans to Calibri". Ah yeah, ok. So do you want me to change? (clicking on the drop down menu of the font selection bar) Ah yeah, ok,

I got you now. (smiling, then scrolling down the font selection menu and selecting Calibri. “Congratulations! Completed” pops up on the screen).

(0:08)

R: All right, something happened!

P: Ok, yeah (laughing with relief, clicks on continue & comic comes up).

R: so what do you think?

P: Ok, no really I didn’t, I was expecting something different because it was a game. So I don’t know why, maybe more comic or something like that. Yeah.

R: Ok

P: “Your resume looks great you’re hired. Here can you give me a hand with this. Time machine. It looks like you need to connect these two wires. Boom.”

(0:09) R Do you find the comic interesting?

P: Yeah, yeah, yeah. Now I think I can see a little bit of relation between it. (clicks and a new ‘middle age’ screen comes up)

R: Ok.

P: Yeah, “the middle age” (thinking)

R: ok, what do you think when you look at the screen? Something is going on, ‘cause I can see you’re looking at it.

P: Yeah, there’s a cloud moving and the middle age is, so trying to see, trying to figure out what this is about. I mean because of the title, try to look what’s going on. (hovering the mouse over the playing field) Ok a rat. (moving the mouse to another person) Ah ok, “the king of a square table, you’ll learn how to change the space”

(0:10)

R: So, what does it mean? So when you

look at this?

P: What it means so, every, every single character has a different ermm, has a “hallowed halls, you’ll learn to use ink to text highlight. Kings versus dragon – you’ll learn how to use animations.” So every, every character has different functions, no? And will do different [tasks], ok let’s start with “ringing around the..”

R: So you just decide on random base, or?

P: Yeah, definitely.

R: Ok, go ahead.

P: “Robin Hoods results- you’re allowed to use, ”(clicks). Ok let’s start with Robin Hood. (Excel opening).

(0:11)

P: “Robin Hood’s results. Represent the, pie chart like this, ”(hovering around with the mouse, thinking). “Change the layout, stealing from the rich to give to the poor [...] chart”.

R: So do you know what to do next?

P: Yeah ermm, so what I think is, what you want me to try is to put this, I mean to represent this percentage on a chart

R: Mh (acknowledging).

(0:12)

P: Ok, (taking a deep breath) I don’t know how to do it.

R: Ok.

P: “Instructions” Yeah this is Robin Hoods result. “Present the data below [...] present”. Yeah, so (clicking on data table). So I don’t know how to make it work.

R: Ok, when you look to the right side, the right hand side,

P: yeah

R: , you see also the instructions, right?

P: Yeah

R: And, just, just, (tester clicks on need a hint). Yeah.

P: Ok need a hint, yeah. "Select Cell D8, E13. D8", (selects cell D9 and laughs intimidated)

(0:13)

P: oh shit, to E13. So we got it shift (clicks), work like that.

R: So you haven't used Excel before?

P: Not much really, yeah, yeah. (clicks onto two more hints) "Select the insert tab, insert, " what is your insert tab? (clicks around).

R: Ok. So, you're not sure what an insert tab is?

P: No. (selects all data again) This one here? (shows to the computer keyboard insert button). No (clicks on '1 more hint' button). Ermm, click back.

(0:14)

R: Any idea what insert tab could mean? Or where to find it?

P: No.

R: Ok. Ok, I will help you. You can find the insert tab here.

P: Mh (acknowledging). Yeah (clicks into insert tab). But I don't know how to drive it, really I don't use it that much (selects the right pie and chart pops up on the screen). Alright, this is what we want to achieve or not?

(0:15)

R: I don't know, what do you think?

P: Yeah

R: Do you think it's the right thing that you just did?

P: Yeah, "Change the chart", yeah, "change the chart", yeah.

R: So you think it was the right thing?

P: Yeah, I reckon.

R: Why? Why do you think it was the right thing?

P: Because that was what they were asking me, no? I mean represent all of this, all this percentage on a pie diagram.

R: Mh (acknowledging)

P: "Change the chart layout with one click" (clicking on the ribbon and changing the chart layout several times, clicks on need a hint). "Select the chart" (clicking around in the cells of the spreadsheet) Oh, shit. Is this gonna' be recorded? (joking & laughing). Really you can see that I don't work with that, really, (clicking around desperately and changing the selected tab).

(0:16)

R: No, see, that's all right if you don't use it on a day to day basis.

P: Yeah, "change the chart layout with one click" (clicking on chart in the instructions pane)

R: So you clicked on here several times. Is there a reason why you click there?

P: Ermm, because I'm trying to do the second, the second point.

R: Ok

P: "with one click, select the chart", yeah, "select the chart".

R: So currently you're unsure which chart to select. Am I right?

P: Sorry, sorry?

R: Currently you're not sure which chart to select?

P: Yes.

R: You see the one that you created and you see these two here, right?

P: Yeah.

R: So you're not sure which one to select

when you read the instruction.

P: No, no, I am not sure what, which one, so.

R: Ok.

P: Yeah definitely, I am not sure which one.

R: Do you feel like clicking, (tester clicks on '2 more hints' button) yeah.

(0:17)

P: "Select the design chart" (clicks on '1 more hint' button)

R: What's happening?

P: So yeah, it will give you, I try to look [at] it here, it will give you more tips.

R: Ok but you look irritated.

P: No, no, no. Just need to take time. Really, really, I don't use that much. I don't work with that, (mumbling) so. This design, take more time to retain (mumbling), because sometimes, what I kind of do is switch it of and come back later.

R: Ok

(0:18)

P: Ok, "chart layout gallery click layout three, design chart".

R: Ok, I'll give you a small hint.

P: Yeah.

R: Ermm, when you look at this side it tells you all, it gave you several hints. Right?

P: Yes.

R: The first one is select the chart.

P: Yeah.

R: And the chart that you need to select is the one that you created.

P: Yeah, ok that one there (clicks on chart).

R: Ok and now you can continue.

P: Yeah, "select the design chart tools"

R: So when you read this instruction,

P: Yeah.

R: Is it clear to you what that means? "Select the design chart tools tab".

P: "Select the design [...]", yeah. I am trying to find, I am trying to find, design (click onto design tab).

R: Mh (acknowledging)

(0:19)

P: Chart tool. (searching)

R: Yeah.

P: Yeah, I am trying to, in the chart layout, where do I click? (looks at the provided hints again and clicks on the correct button completing the task). Ok, ermm, ok (takes a deep breath). How I, how I find out? Because just I read the last line "gallery click layout three", so that's why I just click, I mean the third, ermm, "layout chart", ooh, there is, there is the instructions, really I mean there is.

(0:20)

R: But when you read this one "select the design chart tools tab" you selected the design, so you clicked on design and then you continued and, were you looking for "design chart tools, or"?

P: Yeah, I was.

R: Because you stopped for a moment.

P: Yeah I was looking for chart tools, yeah.

R: Ok.

P: Yeah definitely, I was looking for chart tools, yeah.

R: But then you just moved on because you decided, well I try that.

P: Mh (acknowledging).

R: How is that working for you?

P: Ermm, pff. Ok, definitely it'll take me

time because I am not familiar with this. I have to read properly, maybe. I concentrate better when I am on my own and when I am not talking but in this case, I mean.

R: Ok.

P: I mean, do you, you want me to say what I think, so maybe because of that. But maybe on my own I will do it better.

(0:21)

R: So when you...

P: It's like, when I'm on my own I am really focused on it.

R: Ok, so when you learn stuff on your own, you prefer to be undisturbed? That nobody...

P: Yeah definitely, definitely, I mean, at least somebody is teaching me, I mean straight away, no?

R: Right.

P: But I think I am a kind of person that at the end of the day I will figure it out.

R: Ok.

P: Yeah but definitely I don't use, ermm, I don't work with charts unfortunately. I would love to, I need to. I know that.

R: You need to?

P: Yeah, I need to. Yeah, I mean I need to learn more.

R: Ok.

P: Yeah, I need.

R: Now we stop for a minute. Would you use that one to learn how to use it?

P: Definitely, I reckon, definitely.

R: Yeah? So you would play this one?

P: Oh yeah, definitely, definitely, yes.

R: Ok, interesting.

P: Definitely, definitely, yes.

(0:22)

P: That's what I say because what I do at work, I mean ermm, I do physical work. I wire things, I connect cables, I make machines work but never I sit on the computer. And for example create the drawings or do the calculations, never unfortunately. No. Somebody else does it for me. My boss does it.

R: Right.

P: So that's the reason but ooh, I reckon is going fine. Definitely, definitely, definitely (clicks on continue). So we did one, we did Robin, ok Robin is done (clicks on next task). I have done one. Ok, "the knights of the square table. 1. Change the table shape from square to round" (clicks on 'hint' button).

(0:23)

P: (clicks on the table) Yeah (clicks on second hint and selects format tab, then clicks onto the next hint). "Shape", yeah, it helps (nodding head and selecting the right option and completes first task).

(0:24)

P: Oh, definitely helps. Now because I did the first part. "Change the table's fill from walnut to oak" (clicks on hint). "Select the table", (clicks) ok. (clicks on second hint) "drawing tools" (clicks on third hint). Which one is oak? You got me now (laughing). Ermm, orange.

R: [Are] you searching for a colour?

P: Yeah, for the colour.

(0:25)

R: How do you know that you are searching for a colour?

P: Because, they tell me a colour.

R: Do they?

P: Yeah orange, yeah, definitely.

R: Have you read the instruction?

P: Ah, ok, (clicks) texture, ah texture oak, texture (finds texture option). Yeah, I haven't read the instruction (laughing).

R: So you just looked at it like very shortly and then you wanted to move on as fast as possible.

P: Yeah, exactly. Yeah, yeah, that's what I've done right now. And then (searching for oak texture). Ok, you said is oak.

(0:26)

R: So which one is oak?

P: I don't know which one is oak.

R: Do you know how to find out which one is oak?

P: No, just keep going.

R: But you sometimes leave your mouse at one of them and then you kind of move it. Is it helping you? Is it (tester selects paper bag texture and get the congratulations screen for completing the task).

P: No, I didn't get what you said. So you see the mouse in that place and yeah you see the mouse there and soon there some information comes.

R: Is that, is that, do you think this is the name and would you have found oak? Do you think you used the right one?

P: No, I don't know what I did, I just clicked.

R: You just clicked?

P: Yeah.

R: Ok but you obviously won.

P: Yeah, I know (laughing). I'm lucky. Ok continue.

R: But do you think you learned something now?

(0:27)

P: (hesitating) Definitely, definitely, definitely, definitely, yes.

R: Ok.

P: Yeah, at least I am completing all the task, I mean I am doing all the task.

R: Ok.

P: Maybe on my own will take me longer, I mean, longer, yeah, maybe or maybe I should need to ask someone. Yeah, definitely yes (clicks on continue). Ok.

R: So when you have, ermm, when you are learning something and you have a problem learning something, ermm, or you have a problem with a task at hand, how do you approach the problem solving? So what is your problem solving approach? You just ask somebody? You go to internet and google?

P: First, I try as much as I can and then am I going to internet and then I got a friend, like he's IT technician, or could be Milena.

(0:28)

P: Or could be a friend who live in Blenheim. Always, I call him and he hook into my screen and he helps me.

R: Ok, so first you try, second you use internet, short search and then you ask somebody?

P: Yeah.

R: Yeah, that's cool.

P: "Insert the smart graphic, add white outline style to make the graphic look like this"

(0:29)

P: Ok, (click on hint button) "insert tab" (clicks on insert tab, then on second hint, selects smart art button and smart art window opens. Tester tries to click on hint button which doesn't work as he has the smart art window open).

R: What's happening?

P: I need to select one of this but ok,

so, “insert the smart graphic text cycle”
(mumbling)

(0:30)

P: “Add the white outline style” (tries again to click on hint button which doesn’t work as he has the smart art window open). Why doesn’t allow me? Because I have to?

R: Mh.

P: Yeah, ok.

R: Basically, when I say ok it means I just listen to you.

P: Ok (selects cycle category in the smart art window). “Select the insert tab, smart art” (clicks around on white space, then clicks ok. A chart comes up which hasn’t the requested shape but balloons show on the screen and the first task is crossed out). Nope.

R: So, you said no.

P: No because I believe, I think, “you know that many people”, I would.

(0:31)

P: I wasn’t sure that, that I told you before that sometimes I just try if is not what I want just do it again. No.

R: Did you say no? Just a guess. Did you say no because this one doesn’t look like that one?

P: Yeah, definitely!

R: Did you know? Ermm, do you still think it’s right? I mean the game tells you that you did right?

P: I am not sure if I did it right.

R: Ok.

P: I think, “insert this” I think.

R: Because it crossed.

P: Yes it crossed it but at the meantime I got a tick here. B: But this doesn’t look like so.

P: No, definitely, definitely.

R: Does it irritate you?

P: No.

R: Do you just want to continue?

(0:32)

P: Yeah, “select the text [...] the text cycle” (clicks on a text box, then on the next hint). No definitely there is something [wrong], but you know, definitely there is something. Like “select the text cycle, text”, yeah definitely. Because English is not my language, you know, sometimes I have to read twice and I try to.

R: Take your time.

P: Yeah

R: Don’t be under pressure. I don’t want to force you into something.

P: I have to translate what they are trying to explain me, what the context is about. No?

R: Mh. Take your time if you need some time to think about what it means.

(0:33)

P: Yes, ok, (clicks around and then selects the next hint) yeah (selects a colour and balloons come up).

(0:34)

P: Ah, ok (clicks onto the next 2 hints), “In the smart art style, smart art”

(0:35)

P: No, I cannot find it smart art coloured but.

R: Ok. Yeah, and any idea what you can do?

P: “smart style”, no, I’m stuck here, I think.

R: Ok. When you look where you put your mouse, when you look further down.

P: Yeah?

R: You can find a retry or quit button.

Have you noticed the buttons?

P: Yeah!

R: I mean you could. You have basically two choices.

P: Retry game, or?

R: Yeah, you could exit this level or you could retry this level (tester clicks on exit) and start over, try again and see whether you have more luck next time if you want to (closes exit window again and starts the task over).

(0:36)

P: Yeah, definitely.

R: So, do you remember how you solved the first one?

P: Yeah, pretty much, yeah. "Insert the smart art graphic", yeah but I, that's what I said, I am not sure that, if I did it right.

R: Ok.

P: Because it doesn't look like a circle.

R: But the game kind of, did the game, so the game did some noise, right? When you, before it crossed out the task. Did it tell you kind of that it was right, or?

P: Ok, now that you mention it, yeah sometimes when you fail there is like a 'pum', is a funny sound. But really, but because you mention right now that I'm thinking about it but before really didn't.

(0:37)

P: Because I don't play, you know, maybe.

R: Ok

P: Yeah. "Insert the smart art, text (clicks on hint), smart, text cycle"

(0:38)

P: Yeah, ok (finds the right smart art and

clicks on it).

R: Ok, so now you said "yeah, ok".

P: Because now I went a little bit further. Before I didn't try, I mean to scroll down to see and now I kind of understand what they want me to do. What is the, ermm, so they want me to choose the text cycle, I don't know, 'type' or whatever. So, yeah (clicks on ok and graphic comes up). Ok (click on next hint) Ermm, what was it? "Change colours". Ok let's try. "Select smart". Ok let's try. "Select smart, select design smart tools tab".

(0:39)

P: Yeah (clicks on next hint), yeah, that was done. I did it before. Yeah in the gallery, "colourful, accent colours" (clicks on the correct colour option, then onto the next 3 hints).

(0:40)

P: (tester finds the button to add white outline) Ok I think that this time I look at it a little bit more. I could understand more the description of what do you want me to do. So I find it easier this time.

(0:41)

R: Ok.

P: Yeah, definitely easier (clicks on continue). Yeah, yeah (clicks on continue). Because some of the tips that you gave me also. And I don't know. I think I look properly this time and I could understand, I understood the concept of what do you want me to do. What game want me to do. Maybe the first time, I look at it just roughly. And, and, and I say take me time because I am not used to do, to work with this.

R: Yes.

P: I mean, take me time to really figure

it out what I have to do.

R: Right.

P: Yeah.

R: Do you feel like it could support you more? You know, give you better explanations to help you to understand you the context better?

(0:42)

P: As I told you Juri, I am this kind of person that maybe I will try twice or maybe three times, maybe after.

R: It's ok, right? Because it has a re-try button. So it's the concept of the game to retry.

P: Yes, yes. So, so and see the first time when I click, you asked me 'what?' And I said 'oh, no' and you asked me, I have this feeling that it wasn't right because I didn't achieve the circles.

R: Sorry, when I say 'why did you click here?' I don't mean that it is right or wrong.

P: No, I said 'no'. When I click, I said 'no' because I knew that it wasn't right. I didn't achieve what I wanted or what I thought.

R: This was why I asked, I wanted really to know what you feel and why you say no.

P: Yeah.

R: It's not, I am judging you.

P: No, no, it's fine. It's because I wasn't sure really hundred percent, I wasn't complete satisfied that that's what I wanted to achieve. I wasn't expected that result.

(0:43)

R: Right.

P: Yeah. Ok, (starting next task) "sort the table in ascending order by year". Ok,

"ascending order" (clicks on hint).

(0:44)

P: "through G25, E9" (selects entire table and clicks on next 2 hints). "Click sort filter" (selects sort and filter > smallest to largest, task completed). Ok, now I am more familiar with your instructions, so definitely become easier for me. I feel more confident and like, I have a better understanding of how this tutorial thing, I mean, will help me to do it. Also, now I am more familiar with what will be the next step.

(0:45)

R: Ok.

P: So I reckon, yeah, is good (enters the next task). (Mumbling) "apply the fly"

(0:46)

P: Ok that's new (pointing to speech balloon of Clippy and laughing). Ok, "apply the fly in animation"

R: Do you know why it's there? Do you know why it's there?

P: What is this?

R: Yeah.

P: It's just I mean, information that you gave me something. Some kind of 'did you know' things.

R: Right. Ok.

P: Which is good, and obviously you will keep it in mind. Yeah.

R: (laughing).

P: Ok, "apply the fly in animation to make the knight charge at the dragon" (clicks on next 2 hint buttons).

(0:47)

P: "In the animates list" (follows the instructions and completes first task). "Change the effect option" (clicks onto next hint). "Select the knight" (clicks on

next hint and selects the according tab, even though it already is selected, then clicks onto the next hint). “Animation tab”. Oh, has stopped working (PowerPoint has stopped working).

R: Ok.

(0:48)

P: “Windows is collecting information about the problem”. I think it’s trying to connect online (PowerPoint restarts).

R: Do you know why it happened?

P: No.

R: Ok. Do you know how to continue, or?

P: (mumbling) Help. So I need to continue. (clicks on ribbon hero sign in right hand corner, which brings him back to the game, then clicks onto the knight). This is start again.

(0:49)

P: Ah, ok. Ok, I need a hint “select the knight”, yeah (clicks on next hint). “Animation tab”, yeah, fly, yeah (completes the first task and selects next 3 hints).

(0:50)

P: “In the direction list, click From Left” (completes second task). (clicks on animation preview) I don’t know what I’ve done now.

(0:51)

R: Do you know what to do next?

P: “Use the ribbon to preview the animation”.

R: Do you know what that means?

P: No but I’m going to find out (clicks on next 2 hints). “Click preview” (completes task).

R: You obviously won.

P: Yeah.

R: But when you read the third instruc-

tion, it says “use the Ribbon to preview the animation”.

P: I was expecting to watch, how it, I mean.

R: Do you know what Ribbon is?

P: No.

R: Ok.

P: No, just followed.

R: Mh. When you look at this congratulations window.

P: Yeah.

R: Can you describe what you see and what it means if it tells you something?

P: Ah ok, yeah. If you want me to try if really try a game to find out if I really I understand without help?

R: No, this is not what I’m saying. When you just watch at this, you see different things, right?

P: Yeah.

R: You see continue or try again, but you also see something here and something here. Can you tell me, does it mean to you something?

P: This mean to me something.

R: I mean, it says completed +50. Do you know what this plus 50 means?

P: I guess points.

R: Ok. Do you know why this is zero?

P: Zero. “+0 or 10, play again without hints”. So it means that I use all the hints that you gave me, I mean that the program gave me.

(0:53)

P: So I haven’t done any on my own.

R: Ok.

P: Ok. That’s right? I’m right or not? So I use all the help.

R: You’re right.

P: So I use all the help. I didn’t try to do

it on my own. Actually I just followed the instructions. (clicks on continue) Yeah, is that what I think.

R: So you say, you won 50 points or you gain 50 points. Do you know what the points are good for?

P: To complete the game. I reckon, to, I mean.

R: Ok. How will you know that you completed the game? Any idea?

P: Because I got the green tea, ermm, tick and I'm adding more points and yeah, I got the congratulations.

R: Ok, yeah. (tester clicks on next task)
(0:54)

P: "convert the handwriting"(reads)
(0:55)

P: (follows 2 hints and completes the first task)
(0:56)

P: (click on next 2 hints)
(0:57)

P: "click highlight. no more hints, on the formatting, on the toolbar".

R: This is what you just did, right?

P: Yeah.

R: Any idea why it's not working?

P: Because I didn't select this? (selects one word and highlights is as requested). Oh, yeah I need to highlight, yeah. Ok (selects phrase and completes task by highlighting it)

R: Any idea why it's still not working?
(0:58)

P: Mh, any idea why it's still not working?

R: Or why, why, I mean the game is going, still on.

P: Why I didn't win.

R: Yeah, sorry, this is what I mean.

P: "Highlight the text under the first photo".

R: Because from what I can say is, you selected the text, you clicked on formatting and you clicked highlight.

P: Yeah. "Highlight, under, the first photo, highlight the [...]". No, I don't know. I need to read more definitively.

(0:59)

R: So you think it's your fault?

P: No, I'm missing something.

R: Ok, this is what I mean. So you think that you missed some step.

P: Yes, could be. Ok, yeah, ok, ok. Maybe because I didn't convert to text automatically, so,

R: No. You did.

P: This is, this is, "kings of France" (clicks around trying hard to find the mistake).
(1:00)

P: "Highlight the text" (retries the whole level and completes the tasks again).

(1:01)

P: Yeah, I don't know what's going on.

R: Ok.

P: At least, I, yeah.

R: Ok, I think it's not your fault from what I see. Because from the instructions, when I read them, you've done all of the instructions the way you should be doing them.

(1:02)

P: Yeah.

R: So I don't know why it's actually not working. I can't tell you, because when I played it, this worked for me and when others played it this worked for them, too. Can't really tell.

P: Yeah.

R: But that's all right because I think

we stop here, playing games, and I just continue asking you some questions. And then we talk and probably you have got some questions for me, too. All in all, are you satisfied with this game, or? Yeah?

P: Yeah, is something new for me, I reckon, I reckon really is really helpful. I've done things, that really, I never done before. I don't, I never use it, I never have to work with this and definitely, yeah maybe, I mean, following this game or playing this game instruction game (doing gestures with his hands), definitely I will know.

(1:03)

R: Ok. Did you do that, did you do that (referring to gesture) because it's still not your idea of a game?

P: No, it's, is because I don't know how do you want to call it 'instructions game' or maybe, I don't know, a learning instructions or, how do you want to call it? Simply, I mean, the proper name, I mean it's just my body language.

R: Ok. Would you call it a game after all?

P: Ermm, a tutorial.

R: A tutorial. Ok, mh.

P: A tutorial, yeah!

R: Would you play this in your free time?

P: In my free time?

(1:04)

R: Or, you said, the task like using Excel for number crunching and charts, this is something, that, in the beginning I remember you said, this is something that you want to know how to do it on your own.

P: Yeah.

R: Would you use this one to learn how

to do it?

P: Oh yeah, definitely, yes.

R: Ok.

P: Definitely.

R: Would you use this one at work?

P: Yeah, definitely, why not.

R: Yeah, ok.

P: Definitely, yeah.

R: While you were playing this, do you feel like it makes you play even more? I mean, does it motivate you to continue?

P: Ah ok, I reckon it will, definitely it will. Yeah I believe so.

R: Ok.

P: Yeah, I believe so, yeah it will. Sometimes, I am a person that if I going to ask something, I will ask maybe a friend.

(1:05)

P: Because, I would like to do things on my own and I don't like to let everybody know, that I don't know how to work with that. Yeah, so I try to fix, work it out on my own first. So if I've got this game available, definitely I will try it, I will use it.

R: Ok, because then you can do it on your own?

P: Definitely yeah, I will use it.

R: Right, ok.

P: Now the next step will be how we continue this.

R: Well, I actually don't want to continue. I really want to stop playing this.

P: Yeah.

R: Or do you feel like playing,

P: No, no, it's fine. No, because I think we are missing one task. I mean it's still missing one.

R: You want to continue for this one task?

P: Yeah, why not, yeah.	R: Ok, continue. (tester clicks continue and level two comes up) Do you know what's happening?
R: Ok, let's do it. I have more time. Let's, ok, we still can't solve this one.	
(1:06)	(1:09)
R: What do we do about this one? Because there's another one, right?	P: We complete the first level.
P: Yes.	R: Because you said, there is one more task that you need to complete. (tester click on continue and comic comes up. Reads comic and clicks continue to enter new level)
R: So, ok, let's click on retry, then do first one. You did the first one right, the first step. So you click...	P: Ah, ok. Yeah, I thought the book, was a book, or not?
P: Click here. Yeah, click here, and then was tools and then was, (completes first task only partly). Yeah, ok (does it again selecting complete text).	R: Yeah, ok.
R: Ok, now try, click somewhere else. Now try selecting this one by clicking and...	(1:10)
P: ... dragging,	P: (then selects new task. In the new task he selects the graph and goes to design first, before clicking on the next hints. Selects the chart style menu and balloons come up).
R: Yeah. And now try highlighting, probably, I don't know why it's not working.	(1:11)
(1:07)	P: Sorry, what they ask me for? So what they ask me for? (closes window and refers to instructions, refers to hints)
P: Ok. (clicks around, clicks on hints again). "Select the text under [...]" (thinking, clicking on next hints)	(1:12)
(1:08)	P: "Chart style" (takes a deep breath). Oh, wait a minute. "click, in chart style".
R: Try, try just clicking on the button, not at the arrow. Just click there. (tester clicks and congratulations screen comes up). Ok, this was luck.	(1:13)
P: I don't know what happened. So, you have to click it?	P: (searching, then selecting a different chart style, which let's the congratulations screen come up, even though the wrong chart layout is still selected. Clicks on continue.). Definitely, I got more idea how it will work. Definitely.
R: No, to be honest with you, you did the right thing, but the game just didn't recognise it as the right thing. So it's a bug in the game.	R: Ok. Do you know how much time we spent?
P: Is, ok.	P: No idea.
R: This is my opinion on this play and I will tell you later why. But you want to continue and finish this one last game.	R: What do you think?
P: Yeah.	P: I think we spend, we start 7:12, we start 7:12 something like that.

(1:14)

R: But you don't know the time? You don't know how long you were playing?

P: No.

R: Ok. So you got really lost in the game. So you really were into the game.

P: Is like a challenge for me, Juri. You, I start something and I would like to finish it.

R: Yeah, ok.

P: I mean, I am this kind of person, I start something, yeah, let's finish it.

R: Yeah, ok.

P: And of course, because I want to complete because of you also.

R: Yeah, ok, cool. But, it's still a challenge and you like completing challenges.

P: Yeah, definitely, yeah.

R: Ok, cool. Ok I think.

P: How many more levels have we got? Ten?!

R: This one and I think four more.

P: Oh, serious?!

R: So, there are a few more.

P: Ok.

R: Do you have further questions?

P: If I have further questions?

R: Just for me, or what we just did?

(1:15)

P: Would you let me, I don't know if you can, further questions?

R: Like, ermm, do you have like suggestions for me what I could do?

P: Oh no. No, no, no. Definitely, maybe taking more time. Because I told you I am new in this but seriously, seriously, I believe it's fine. Is good, is very helpful.

R: Ok. It's cool. Ok, I will stop this now, if you don't have any questions for me.

P: No, no.

R: So I think I've gained a lot of stuff, a lot of useful stuff and then if you want to, we talk a little through what I found so far.

P: Yeah, definitely.

R: But for sure you will get the final results, when I write, when I finish my thesis.

P: Yeah.

R: I will just tell you what I found with you.

P: Ok.

R: Finish that, finish that and I stop.

B.5. Participant 4

B.5.1. Notes

- remembers Clippy, agrees with comic
- what do the points mean?
- slow motion of comic
- "longer than normal", normally uses Ribbon
- not sure whether he gets more points by playing without hints

- no idea what points are good for
- irritated by bug
- has not really learned anything new
- normally not using MS Office
- thinks he progresses by playing all levels
- thinks that it is becoming more difficult over time
- not satisfied by points; meaningless, especially if one can go back any time to gain more points
- found another way of achieving result, fulfilling instruction but game did not respond; irritated, prefers right-click: “I’m a right-click person.”
- “didn’t know that it could do that, it is news to me”
- feels like instruction set is incomplete
- “that’s good, nice”
- got it right but missed it the first time
- impression the game never ends
- thinks it is a game because of the points

B.5.2. Transcript

(0:00)

R: So basically this is called situated co-inquiry.

P: Called what?

R: Situated Co-inquiry.

P: Ok.

R: This session is not about your performance as such. It’s about your user experience. You’re using Ribbon Hero 2. Ribbon Hero 2 is possibly a game where you can learn about Microsoft Office. Do you use Microsoft Office ?

P: Little bit, yeah.

R: What does it mean ‘little bit’.

P: Well, I’ve got it at work, but I’ve

grown up with Microsoft Office, so I don’t know all the latest, I just know all the short-cuts. So yeah, I know it.

R: Which version are you using?

P: Now I am using 2010, but I just started with 2010.

(0:01)

R: Right, ok. Today you will be using version 2007. But I guess it’s very similar, as far as I know.

P: Yeah.

R: And basically, what I want you to do is think out loud, what this means is when you do stuff, I just want you to express what you think what you feel, what you

want to do, what you are doing. Anything what comes up to your mind.

P: All right.

R: This is basically what I want you to do.

P: Ok.

R: I might interfere at some point and ask you some questions or remind you to keep on thinking out loud, if you stop doing that. Or I just observe. When I do something like ‘aha’, ‘mh’ or ‘yes’, it’s not that I confirm or deny something, it’s just that I’m here, so that you know that I’m not falling asleep.

P: Ok.

R: Just check this here, this is running.

(0:02)

R: Ok, it’s yours!

P: Ok. “Ribbon Hero 2, Clippy’s Second Chance”. This mouse is a bit sensitive (clicks on play).

R: Should we change that?

P: Nah, it’s all right (reading comic, laughing).

R: You’re laughing, what’s going on?

P: Yeah, I’m laughing because it’s quite true. I also think that Clippy is irritating.

R: So you remember him?

P: Yes, I do. “level 64, when are you moving out of my basement”? It’s moving across, I just need it to move a little faster. I’m sure I can move it faster, so I’ll just check (moves comic across faster). Ok, very good. Very funny. Looks like he needs some help. Yeah I remember mister Clippy. All right let’s help him (clicks on help Mr Clippy, first task loads).

(0:03)

P: “Change the font of the entire document from Comic Sans to Calibri”. All right, ok. So I would select Control A, go up to my font and chose Calibri. Ten points, is that good or bad? I don’t know. All right, keep it going.

R: Why don’t you know. So you said you don’t know whether this is good or bad.

P: Well, I don’t know, it could be out of a hundred points. So not really too sure (reading comic). “Time machine [...] like you need to connect the two wires”.

Ok, just a little slow coming across from here, but that’s all right (moving the comic on faster). Ok, click next. Oh, I see 10 out of 300, ok.

(0:04)

P: That makes sense now. Ok so you can go to different areas. Very nice (hovering over different tasks). And I’m just looking around the screen to see what kind of things are out there, kind of mix points “60, 60, 60, 60 and 60”, they’re all in the same order. I’ll do what intrigues me first (clicks on the knight). PowerPoint.

R: It’s just random or interests you most?

P: No, random, fairly random. I also like PowerPoint. “Change the table square from square to round. Change the table fill from walnut to oak.” Ok, “I finished the table you asked for. Clippy don’t you listen”, ah, ok. So just reading this little bit now, reading the screens. Check both instructions both left and right. Ok, I will go and change the picture (does right click on the table).

(0:05)

P: Oh, doesn’t give me the exact option for that. I’ll go back into drawing, “change shape”, make it to an oval (com-

pletes the first task using the format ribbon). Right, and the table's fill. Hmm, I seem to be clicking the right button, I seem to be missing that a few other times. (right click on image) Formatting the picture (message comes up saying 'you are going the wrong path'). Thank you, "try a different button the current tab of the Ribbon". Ah, I'm not looking in the ribbon enough.

R: Do you know what the ribbon is?

P: Yes, it's the thing at the top.

R: The whole thing?

P: The whole thing, yeah. And I see it changes. What do I have to fill it with? Can't remember "to fill it to oak" (searches in the shape fill menu). And I have to look for oak. If I only knew what oak is. What does oak look like? "Walnut", I see It's got the names coming up, "oak" that one (completes second task and congratulations screen comes up).

(0:06)

P: Beautiful. Took me a bit longer than normal. Damn!

R: Longer than normal? How do you know? What does it mean?

P: For me that just means that I went to the wrong place to formatting the picture instead of looking at the ribbon, that I normally would, I think.

R: Ok.

P: All right, cool. So we've done the knight. "Smart Art" (selects next task). "Ring around the Rosie. Insert the Smart Art Graphic called Text Cycle". "Add colourful accent colours. Add the white outline style to make the graphic look like this". Ok, ermm. "Smart Art, cycle", I think it was text cycle, I think that was

it, Text cycle, that it (selects text cycle and completes first task).

(0:07)

P: Ok, "Colourful accent colours, colourful" (selects colourful option and completes second task). "and add the white outline style". Hmm, where do I find that one now? "White outline style", that'll probably be in there (clicks on format and white outline) outline, chose white (nothing happens). And I need to select the whole lot (selects whole graphic and tries again but nothing happens). Hmm, obviously I've done something wrong. Text outline, ah I'm one step out. On these things (selects white outline but nothing happens). Is it on the shapes? Yes give me a hint (clicks on hint). "Select the..", I've done that (clicks on next hint). "Design, smart art [...] design, smart art", yeah.

(0:08)

R: Do you know what the smart art.

P: Ach! Ah, yeah, yeah, yeah, yeah. So white outline, done! (finds the white outline icon in the ribbon and completes the task).

R: Do you know what the smart art tools means?

P: Ermm, yes, it's like automatic, automatic ermm formatting of shapes without me having to create them into certain ways.

R: Ok, so you knew that you won't find it in the UI under the term or label smart art. It's just a term to describe something in the UI.

P: Yes.

R: But you won't find it as such. Because design maps directly to this tab here at

the top.

P: Yeah, I think when I read “white outline style” and I guess the concept of a white outline style, I saw that as a format. So when you see a style, to me that’s a format, like pivot table in Excel and when I go do a certain style I go into format.

(0:09)

R: Ok.

P: Anyway (mumbling). I don’t want to play it again without hints. Do I have to? Hmm, no, I don’t know what it means, I don’t need another hint. I know how to do this. Does it say that I can get more points if I do it some more? Hmm, that’s the question. All right, bugger. I’ll continue.

R: So, you’re not sure whether you get more points?

P: No, I’m not sure if I’m gonna get more points if I do that or not. I’m not sure if that’s the intention, so..

R: Ok.

P: Ok, I did that one. Ok I will need something else,” Robin Hood”. This is good. “Present the data below in a pie chart.”

(0:10)

P: Change the layout with one click so the chart looks like this”. Ok, I’m moving the legend down to the bottom. Ok, so what I will do is, I’m going to try and find a pie chart, and also in 3D (finds the pie chart in the Insert ribbon and completes the first task). Cool. “Change the chart layout with one click”. So I want to move my legend to below. It’s a little hard because I think it was trying to show me underneath here what it

needed to look like. So, move it down a little bit. And the layout looks like that (completes second task and congratulations screen comes up). Cool, yes!

R: So the instructions are basically always clear to you?

P: Well, I knew that I needed one click.

(0:11)

P: Which I thought actually made a lot of sense then. So it means that I didn’t have to go looking for a thing, wasn’t being funny, it’s a one click option to do it. That was actually probably the most useful hint. Very useful hint (clicks on continue). All right (clicks on next task). Ok, “take meeting notes in One Note”, never used this, never tried this, so here we go. “Did you know that calling something ‘Gothic’ originally meant barbaric. Convert the hand writing to text automatically. Highlight the text under the first photo”. Right, I have no Idea how to do that, so I’m sure I have to select this text. Probably right click first: “Convert hand writing to text”- done (completes first task). And highlight: I’d go into formatting it, they might have a, here we go they have a highlighter right here (selects highlight on the ribbon of the ribbon (completes second task and congratulations screen comes up).

(0:12)

P: Cool.

R: This was quick.

P: As I said, I’ve never used One Note before. I’m pleased with that. “Knights vs. Dragon”. I don’t’ even know what this package is. What is this one? Ah, PowerPoint.

R: Does it motivate you? I mean the way

the game works?

P: Yeah it's cool.

R: So when you complete a step it gives you that sound 'bing'.

P: Yeah, I like that, yeah I'm going cool and what's quite nice is, I click it and I get the balloons coming up. To me that says "you've done it". I've got a little mini achievement.

R: Do you have actually have any idea what the points are for? What will happen if you collect a lot of them?

P: No, to me, if I get to a certain amount of points I actually learned to couple many skills with this. So just means that my skill level has probably improved.

(0:13)

P: Yeah, so that's what I get out of it.

R: Ok.

P: I'm not expecting money to come away or anything. Yeah, but it's quite nice having these animations coming up, knowing that I've actually completed the level. So that's what I'm feeling. Oh, "apply the fly in animation to make the knight charge at the dragon". Ok, so I need to select the knight. Ok, "select the fly in animation", so I need to do some animation on this, so "animations, animate, fly in" (completes first task). "Change the effect, so that it can fly in from the left". So normally, I would now but that's a transition.

(0:14)

P: Custom animation. So I'm looking to see how I am actually going to custom animate that. At the moment he is actually gonna come in from the bottom, but I want to change it from the left (completes second task). "And use the ribbon

to preview the animation", that's this button over here (completes third task and congratulations screen comes up). Yes. It's funny, it almost feels good to me not to have to use the hints. 'Cause it makes me look around rather than just taking this lazy way and I like the idea of having some additional points because I didn't need to use the hints.

R: Ok.

P: Yeah, that's a good feature.

R: Did you get that from the beginning, that if you don't use hints, you won't lose points?

P: Yeah, the very first one I saw that. It said +10 because there were no hints used. So I thought, ok, if I don't use the hints, if I use the hints I'm gonna lose points.

R: right.

(0:15)

P: So, I was conscious in the second one. It's just that I thought that I was doing something wrong, that's the only reason I asked for hints. I got that right from the very beginning (clicks continue and congratulations screen comes up for completing the second world, comic comes up). Ok, cool. Continue (quickly scrolls through the comic). Ok, nice. Similar sort of concept. Ah, very nice, ok.

R: Do you know why it changed and how it fits into the whole context?

P: Ermm, because I think it's going over a timeline and it's going very far back, as it's progressing through the time line. We are getting more and more use in skills.

(0:16)

P: That's how I saw that. We had me-

dieval now we're going to Egyptians, so we're progressing towards the current. Yeah, that's how I see it anyway and I see this has been quite a good idea, you've had animation which work on.. each one of the animations has got reference to something, within the Microsoft applications. "Longest Reigning Pharaos", I would have expected Excel. Yeah, "from pie to clustered column". To design (clicks on change chart type icon and balloons come up). Ah.

R: What happened?

P: I don't know. As it said "change it to clustered column" and it actually ticked it, but I haven't done it yet.

(0:17)

R: Ok.

P: Right, I'll change it anyway. I'm not sure (completes first task but no balloons come up). All right, "apply a chart style". I'm assuming these are styles, so I'm choosing this. Done (completes second task and congratulations screen comes up). Yeah that one just confused me but yeah, that one said 'well done' before I'd even done it (selects the next level). "Use a ribbon command to make this document's margins narrow. A ribbon command", So that means I need to go up here. Yeah "to make this document's margins narrow". Well, that'll be under the page layout I guess, "margins, narrow"(completes the first task). "Use the ribbon command to change the document orientation to landscape so the table fits better".

(0:18)

P: Ok, cool (completes second task and congratulations screen comes up). It's

actually quite nice because it's showing quite a lot of things that you can do with word at the same time as well. Yeah, I like it because it's showing you what's possible as well (selects next level).

R: Do you feel like you're learning something? Have you learned something new?

P: Not yet.

R: Ok.

P: Not yet (laughing). 'Cause I feel like I've known all the stuff so far. I guess it just made me be more aware of what's up there rather than me right-clicking all the time. I'm always going for the right click support. Mh, I wondered. "Select the first list and remove its tags". All right, well I'm assuming this is the first list. See I go straight to that and remove it's tags. "Remove tag, remove tag".

(0:19)

P: I'm sure I could have done this (removes all 3 tags one by one), hm, "select the first list and remove its tags". Ok, I thought I did. Just do that (selects first three points), "the first list". Hmm, I'm sure that was all of it but, perhaps not. Maybe it's more than one tag. Maybe there's something in here (in ribbon). "Tag, remove all tags" (removes all tags and task shows as completed). Ok, cool. So in other words don't go always to the right, sometimes look above. "Tag each item in the first list as a to do, or the first tag in your list". Similarly I could do that, it's marked to do. This is a cool list to do. I've never seen One Note. If anything, it taught me that it's quite a nice programme.

(0:20)

R: Would you use it in future?

P: No, I don't use Office.

R: Right.

P: But if I had, I would definitely look to use it. There's no doubt about that. Yeah.

R: Considering that you're not using it, you're pretty good.

P: Ermm, "change this layout of this slide to title only, the layout of the slide to title only". It's trying to get me to do the ribbon, so I think I need to go straight to this thing here again, rather than my normal thing. "Title only" (completes first task). "Hide slide 2", so I go into that and there's probably going to be from the title again, "view", I actually know how to do this, which is to hide the slide (does right click and hides the slide), but I was going to do the other thing. "Duplicate this slide with just one command" (completes third task and congratulations screen comes up). Right, ok (selects next level).

(0:21)

P: "Replace the word saunter below with a different word with the same meaning". Lets' see, "meander like an Egyptian" (Completes this task and congratulations screen comes up. Hmm, that's cool, I didn't know that. I didn't realise I could use synonyms, that's very cool. That taught me something. Hmm, "add data bars to the table". So to this table, is that what they're asking me to... "add data bars to the table". Ah they're asking me to make it look like that, ok. Selecting that (data in the table). So now that it's told me that I need to have a look through these things.

(0:22)

P: Just see what we would like to have, brow (completes task and congratulations screen comes up). Done.

R: How come that you hovered over this conditional formatting?

P: How come? Because I knew that one. Yeah, it's only because I knew that one. Normally it would have taken me a lot longer to do that. But I knew that one because I use it in my job every now and then (clicks on continue and screen comes up showing that this world has been completed). Yay.

R: Do you know why that happened?

P: Why what happened?

R: Why you're advancing to the next level?

(0:23)

P: Because I completed all those little levels. Yap, that's what I think anyway. Because I completed all the things that I, I suddenly feel like I'm on this mission to get to the end of this thing. I've got another 1800 points, I'm on the mission to get right to the end of it.

R: Mh.

P: (quickly scrolls through the comic) Back to Woodstock. So we're now in the 60's. Ok.

R: If you, now, look at the top right corner.

P: Yeah, the points have, I've gotta 'get even more points for every little thing that I've learned which to me shows that I have additional stuff to go through (clicks on points statement). That gives me all the things where I needed to use a hint.

(0:24)

P: That's also showing something that

I haven't completed. Yeah, ok. But maybe it's because I needed more advanced things. I don't know. That shows that I missed some steps. Ok. So theoretically I could go straight back to there (clicks on one of the levels that he didn't complete before). Wow, look at that! "Apply the style to the Canterbury [...]"
 R: Do you feel like you want to go back and complete?

P: Yes I do

R: For the sake of completing, or?

P: For the sake of, ermm, I always believe in, if you build a house you gotta start from the foundations and sometimes, if I didn't learn something in this level here in the later levels I might need it.

R: Ok. Do you have the feeling so far that the difficulty level rose?

P: Yes, I do. It seems it got harder and harder. Appears, it's not hugely different. But it does appear, like the last one with the conditional formatting, I think that that's quite a complex thing. And to do some animations, I thought that would have been harder than the first time just changing something. So yeah, mh.

(0:25)

R: Ok.

P: (focuses on the game again and completes first and second task, mumbling) So many things I didn't really know at all. There's obviously a way to do a drop capital, I never had to do that before. So this is new for me.

R: So it means you're learning, or you learn stuff?

P: Yeah, I'm learning something. Whether or not I'll ever use that or not.

(0:26)

P: I'm not too sure, but the fact that I need to understand how to change that is important. No, (Clippy comes up saying that he's chosen the wrong path) I'll look in the ribbon because it's obviously there. Hmm, I don't know if that's a different style for that one specifically, that one only changes the paragraph. That's interesting. I don't see how it's trying to tell me how this would actually help me. Because none of these things actually relate to that one. But normally this would come up with a little a drop cap, maybe I don't know what a drop cap is, that's probably what it is. I don't know what a drop cap is. Ok, so tell me (clicks on hints).

(0:27)

P: "Click inside the body text", yes. "Select the insert tab". Ah, ok. I did not know that (completes this task). Done. Right.

R: So, do you know what a drop cap is now?

P: Yes, I do. I didn't know that before. Cool, and I needed hints, which is really... stresses me that I have to use a hint (selects next level that was left out before). But anyway.

R: But you don't feel like re-trying?

P: Without the hint? No, not at all. I know how to do it now, so I wouldn't feel the need to go and just to prove that I can do it without a hint.

R: And the points are not motivating you?

P: No, not necessarily.

R: Ok.

P: I want to learn through this. If I

was competing against somebody else, I might want to go back and do that.

R: Ok.

(0:28)

P: Having said that I would probably think, this is just my own thought, that if I could do that I wouldn't trust course anyway, because everyone could just go back and do it again. So I would hate the idea of anyone going back and maybe getting half the point, but they couldn't go and get the full points without the hint. That's what I think, that's how I would feel. "Sort the table in ascending order by year". Yeah (completes this task and congratulations screen comes up). Hmm, it's funny, I thought that the first levels were supposed to be easier but having said that, that drop cap got me (selects next level that wasn't completed previously). "Built in themes, apply a built in theme to this presentation."

(0:29)

P: Ok, so this one here. Probably go to my "aspect", yeah (completes the level). So actually this is, yeah, as much as anything this is quite nice. It means that I've obviously missed something from my graphics edges and I probably wouldn't go back to that. I probably stopped and stuck with these ones to make sure that I didn't miss anything. As nice as these levels are, I've obviously missed something twice, so I wouldn't go back to that one. And maybe, perhaps having that list with a little checkbox next to all of them like that, would be nice to go back and try to find which level I haven't got, but, yeah (Completes first task in next level).

(0:30)

P: "Shrink the font size of the second balloon with one ribbon click, ribbon click". "One ribbon click", I'm not too sure what they are meaning by that (completes the second task and congratulations screen comes up). I don't know. I got the first one, but I don't understand what the second one was.

R: So what's irritating you?

P: It says, 'grow the font size' which I did, I grew the font size and the second one said 'with one ribbon click, too'. Ah, I see, "with one ribbon click too", it's basically saying that I used the ribbon in the first case. But suddenly I thought, hang on did miss the method to do it? I thought that there must have be another method with the way that that has been put through (selects next level through the list of levels not in the Woodstock world screen). See this feels logical to me, to get a sequence, you know. Rather than trying to find something.

R: Mh, but now you're following from the top to the bottom.

P: Yes, now I am.

(0:31) T. Yes, now I feel like I'm following from the top to the bottom. Ermm, I don't know how to do this, so I'm just going to hit something like this, "autofit its contents, autofit its contents" (completes first task). Yep. "Table as wide as the page, autofit window" (completes second task and congratulations screen comes up). Ok, done (selects next level). PowerPoint, "make the brightness on the photo left match the photo on the right". Oh wow, didn't know you can do all that. That's news to me. Never thought,

I'd ever do that. "Change the brightness [...] match the photo on the right". I wouldn't know. "Change the brightness, match the photo on the right".

(0:32)

P: Puh, I don't know.

R: What's irritating you?

P: Because none of them seem to work. No one can make it as bright. So nothing seems to match at all. So I'm saying hang on, none of this actually matches, like even making it to there doesn't match it at all. So (message comes up saying that you are on the wrong path), maybe I'm on the wrong path. I feel like I'm on the right path but, so, probably I would have a go at that anyway (completes the first task). Ok, so it seems to think that this is the same.

R: Are you satisfied with this result?

P: No, I'm not. I don't think it's good. I'm glad that it said that it was ok, so it means that I was on the right path, which made me feel better. But I would get irritated that it's not real.

(0:33)

P: I'm not actually. It's saying that I did this but I didn't actually do it. Similar to that one that said that I did something when I hadn't actually done it at that stage.

R: Ok, does it change your attitude regarding the game?

P: Mh, a little bit, yes. I feel like there hasn't been as much attention to, hang on, where else is it saying, yeah, you can be a little bit of a hard wood and you still get it right. So and I guess it's just a thought inside of me right now. And I guess as the second question comes up,

that's perhaps where I can start modifying it. See again, I just find it really struggling to (completes second task and congratulations screen comes up). Yeah, it doesn't quite match so it feels like it's not quite right. Anyway. Close but not quite (clicks on next level). Ok, so now what I've done is...

(0:34)

P: ... instead of looking there what I was, I'm now going back to there saying maybe the second question is going to give me hints to the first one.

R: Ok.

P: Yes. So that's good, so maybe a thing to go back to this thing.

R: And it's not irritating you that you can see number one and number two at the top whereas on the right hand side you can only see number one?

P: No, not at all. Actually what it's doing is, it made me thought about it a bit better. Yeah, so that makes a little bit more sense to me now. Ok (completes the first task), "sort the remaining rows by song title so it looks like this" (completes second task and congratulations screen comes up. Ok (clicks continue and selects next level). It makes me feel good because I like Excel. "Paste a transposed version of this table below [...]"

(0:35)

P: "copy [...]" (clicks on paste special and message comes up saying that you are on the wrong path). Ok, I would have just gone to this one (selects transpose and completes task, but game doesn't recognise that task has been completed). Hmm, that's quite bad, it hasn't let me agree to that. That's interesting. Be-

cause I actually did it right, I didn't go to the ribbon, but it wanted me to go through the ribbon (goes to paste special in the ribbon and error message saying that you're on the wrong path comes up again). Because it's actually saying there's one click for transpose (goes to drop down menu of the paste field and selects transpose. System recognises the task as completed and congratulations screen comes up). Which is good, it's taught me that, there's one click for transpose, but because I am a right-click person, I prefer that still. As much as I have learned something new. It makes sense to me (game shows that world has been completed). Can we pause this?

(0:36)

P: Right, continue, we now move to Woodstock. Ah we just finished Woodstock. "In the army" (quickly scrolls through the comic). He's now in the (clicks continue), oh, back to ancient Greece. Ok, interesting (laughing). Yeah, not quite sure because the point level just jumped up again. 1, 2, 3, 4, 5, 6.

R: Do you know what the buttons in the top left corner mean?

P: Go back and forward, that's what I thought from the last time anyway. Because it said, this way to go to the back to the previous ones. So it means that I could probably go back to the other ones (now clicking through different worlds). Ok, Interesting.

(0:37)

P: It's only showing me which ones I have done, which ones I haven't done - interesting. Why did I, why, ah this

one, because I hadn't finished it. Pushed forwards, ok (clicks on next level). Ok, good learning. Wow, "use the playback controls to play this audio clip" (completes first task). "ignore the first duplicate word that is flagged in the lyrics". This is One Note. Ok, "ignore the first [...]". I have no idea how you do that, so "[...] the first duplicate that is flagged in the lyrics". (window comes up asking 'Did you know about audio lyrics'). Did I know about audio search?

(0:38)

P: I did not know that. Well, that's interesting. No, didn't know that it can do that, this is news to me. Ok, so "ignore the first duplicate word that is flagged in the lyrics". "Flagged", what does it mean by "flagged in the lyrics"? Ah, I see: "ignore repeated words" (completes second task and congratulations screen comes up). All right. Now that I read some of the cartoon, it actually made sense. 'Cause the picture actually made sense now (continues and selects next level). Ok, "copy the text from the picture, copy the text from the picture automatically". Huh, didn't know you could do that. "Copy text from picture" (completes first task). "Paste the text in the empty table cell" (completes second task).

(0:39)

P: "Change the font colour to dark red". Hmm, this is obviously the format. Maybe they have a format command in here. Dark red, hmm, "dark red" (completes third task and congratulations screen comes up). Don't like the font on that. I sort of feel like it's wrong.

It irritates me that I couldn't make this font look right, yeah (referring to a different font being used on the pasted text).

R: So for you it feels like it's incomplete?

P: Yes, yes I do. So now, I'm just going back into this level, because I feel like I can actually see if there something missing now. "Apply a red style", that's good, yep. We know all about styles.

(0:40)

P: Well that's quite cool, I didn't know it was given names. That's quite nice. I think that's what they were looking for (completes the first task). Ok, "apply the special formatting to the total row with the one ribbon click". "Apply special formatting to the total row, special formatting?". That's interesting. I would have thought it would have been here. They want me to give it a total row (completes second task)? Let me switch that of and see. Ah ok, I see what this is. "Last column", of course now that makes sense (completes third task and congratulations screen comes up). Yeah, that's good. Nice (continues and selects next level). Now that I was told one thing, it made sense with the other.

(0:41)

P: Can we pause that?

R: Yes.

P: Ok, "Delete all comments in the document with one ribbon command". Well, that is pretty awesome, I didn't realise we can do that. I don't often do that but I'm assuming in here. "Delete all comments". It's a good question. I could actually just show it without the comments, but how I delete all the comments (completes first task). Ok that's good. "Apply a con-

fidential watermark on this document". That would be probably in the page layout.

(0:42)

P: No? Review. No. Hmm. Ah insert "add a confidential", so must be inserting something. No. "Watermark, page layout", I was actually there but I missed it. "Confidential" (completes second task and congratulations screen comes up). Cool (continues and selects next level). Yeah, it feels like it's getting harder and harder. It's teaching me more about the ribbon now. "Convert the text below to a timeline". That's kind of cool, didn't realise that you can do that. Wow, honestly it's something that I can do on these things.

(0:43)

P: So let's see format. "To a timeline", hmm, never seen that before. No.

R: So when it's not clear from the instruction, which pattern you need to click, you just try out by trial and error? Or what's your approach to look and search for what you need.

P: I think that obviously, I'm assuming, I always think about what kind of thing. So let's say I need to change something about the format that. So I knew that I was in the right tab, in "Format". That I'm saying ok, can I do a quick style, which might be timeline, 'cause I've never done that before. Now that I know that it's part of the smart art, I would go there directly. Now that it's taught me that. But until then, I just thought I could have done a quick style, or it might be arranging it into a timeline. So, actually I went there first, there first, then

finally I thought, ok it must be smart art (completes first task). Yeah. “Changing colours” (completes second task).

(0:44)

R: Ok.

P: “Add a shape to the beginning of the timeline” (completes third task). “3D design”, ermm, (mumbling), ermm, 3D. Hmm, 3D smart art style, maybe that’s what I’m missing now, 3D. What type of design do they want, not too sure, “3D smart art style”. Hmm, interesting.

(0:45)

P: I’ll select the whole lot. This one is making me think a little bit. “Shape effects”. I would probably use “edit in 2D”. Maybe do some kind of 3D effect. I’m trying to see how I can match what it was asking me for. Probably something like that, I don’t know. No (clicks on hints). Ah man, “select the timeline”, yes I got that. “Select the Design Smart Art”, ok. So it must be in here. Hmm, you may want to. Ah I see, it’s one of these obviously.

(0:46)

P: Ah this is the 3D, oh cool. And we go there (completes fourth task and congratulations screen comes up). Right.

R: Are you satisfied with this result?

P: No, it doesn’t look like the picture. Do you want to push pause for a second?

R: Yes I can.

P: Ok, I’m not as comfortable with this as it didn’t look like the picture above and I guess that’s what I was looking for when I went through to that section over there, for something that looked like that. Ok (selects next level). It’s definitely taught quite a lot of these things.

All right.

R: Wait, I need to (checks if the recording is on). All right, you have done that.

P: Yeah.

R: Sorry, cool, continue please.

(0:47)

P: All right, ok. Ah, alright, sorry. It kind of drew me up there. “Left align with the [...] the left hand side”, I’m just going to need to make sure that they’re aligned to the left, right (completes first task). “Distribute the text boxes evenly from top to bottom”. So I just take those three there and, no, I’m looking around a little bit. “Distribute evenly” (completes second task and congratulations screen comes up). Got me a little confused, because that said “picture tools” opposed to “text tools”. That’s just what was going on in my mind (Screen comes up saying that this world has been completed). Ah ok, look at that, something else has happened. I don’t think I was finished in this level.

(0:48)

P: So (mumbling), I continue (comic comes up and tester scrolls quickly through it). Ok, I feel like I’m going around the world a little bit. So rather than, as I was thinking, I move to different timelines. Oh my good, the points are going up in it. So now, I’m just checking through to see what else I’ve missed, and suddenly it allowed me to go forward without actually finishing of a previous level. Which is interesting, which means that obviously it allows you to go further because it know that you have certain levels, I guess.

R: Ok.

P: So now, I can look forward, I can see I've got two more levels to go, according to this anyway.

R: Ok, I think we stop here, because this is not the last level. There will be more.

G: Ok.

R: Just I hope that you didn't see the time. Do you know how much time we spent playing this thing?

P: Puh, probably an hour and ten minutes or so?

R: Do you know what was happening around you while you were playing?

P: Yeah, a little bit yes. A little bit. So I was aware of things, but no, it was quite absorbing.

R: Would you call it a game?

P: Hmm, the points leads me to think it's a game. I think potentially with having those points building up, I'd think that you could use those points for something, or it'll be on something a like a ranking chart. And that's when I think it would be more of a game to me.

R: Ok.

P: Like a sort of rate, ey, you're a bloody amateur or you're a semi-skilled or you're pretty good. I think that's when I would feel that it's a game. When I'm using these things and trying to improve myself, up the score. And you know, so rather than give me the chance to go and re-do it without the hints to go and get more points, that it would say do you want to try something similar and then I can go and try and improve my scores. Stop being an amateur, start becoming a bit more of a professional. That would make me feel better. Like playing on a Playstation, you get a certain amount of points for just going through the levels, but sometimes it says, go and find all the diamonds on this level and you're going to get yourself more points, then you get higher end. And move on to a different leader board, you know. And there'd be some hidden eggs or there'd be some hidden things that you know you can find. Yeah, that to me would make it feel more like a game.

R: OK cool. So you'd expect that the points, kind of will tell you something. So you want something like a leader board where you can compare yourself to other people.

P: Yeah.

R: Would you publish your results? I mean.

P: Yeah if it was done anonymously, absolutely yeah.

R: Ok but only anonymously?

P: Well, I'd put it this way. I think that it'd be quite nice to sort of see where you come on, you know, we've had a thousand people who have done this. The average person has done it in this kind of level and got to this kind of points level. That times by the time value equals 'boom'. Damn it, could have done that better or whatever. I wasn't as stressed with the time I start it with, though.

R: So you wouldn't use this one to play it first and then kind of show somebody, well look, I have these Office skills based on what that game tells me?

P: Yep, yeah, I reckon so.

R: So you would?

P: But only if you weren't able to get additional points by doing it again without the hints.

R: Ok.	probably go get some points, because it's
P: Because, then they're cheating, as far as I'm concerned.	good for you to go back and learn something if you needed to, but I don't think
R: Ok, why that?	you should be able to make it as well
P: Well, because if you allow me to move from 12060 up to 13000 points by going back to all these previous levels and playing the same ones again. Because now that I know how to do it, 'cause I went through the hints and you gave me an extra hundred points for not using the hints the next time, that's just money for jam.	as if you did it in the first place by just thinking it through and by pushing the right stuff.
R: Ok.	R: If there was some black leader board, which is creating this challenge I guess and this is what you're missing a little.
P: It's points for jam, so I wouldn't allow that. That would mean nothing to me. Anybody could rig it to get full points.	P: Yeah, I think so, yeah.
R: But on a, let's say like Playstation game, you re-play the game to gain more points too.	R: Would you, would it motivate you to really keep on playing until you finish the game, until you.
P: Yes you can, but for example on something like this it would probably be useful in terms of a, I guess from a time perspective, if you've had to go back, they should deduct points. It's just, yeah, it's how I would see it as a game.	P: Yeah, I think so. I'd like to see a progress whereby you are, you know, you got some kind of level between red and greens, whatever. And then to try and see if you can actually get it to that level where you can actually pass them.
R: Ok, so going back for you means, or you associate it with it should deduct points, as a negative thing.	R: Ok, right, cool.
P: Well, I don't think that you should get as many. When you go back you could	P: Like a meter.
	R: I think that's it from my point of view. Do you have questions for me?
	P: No, no. I think as a training tool it's awesome.
	R: Ok.
	P: I like it.
	R: Sweet, I hope you enjoyed it. I did. Was very helpful and you've done a great job.

B.6. Participant 5

B.6.1. Notes

- recognised Clippy after being reminded
- performs click on tab even though it is selected already; strictly follows every single instruction

- “Design (Chat Tools)” is not clear to users
- those points are related to skill level but the relation or connection is not clear!
- “Format (Drawing Tools)” is not clear, s. above
- wants to get all points, plays again, challenge; “perfect, perfect”
- cannot click on “more hints” because of modal window
- irritated by bug
- asks herself whether one needs to type all the words from the example, too
- does not like reading because needs to learn constantly and reading interrupts flow of learning but thinks that careful reading of the instructions will help & save time
- thinks one’s progressing to the next level by playing all levels, not gaining enough points
- irritated by bug, instruction crossed out even though it is not done, yet
- irritated by consequences of bug, performed the right action “but no balloons”
- cannot see the points or overall score while playing, so does not know whether using more hints decreases the points
- “there you go”, “amazing”
- motivated to continue after winning or completing a task successfully
- not sure what happened, “very strange”
- “I won again, amazing”
- irritated by slow loading times of OneNote, it loads some other stuff in the background
- knows that she did something wrong but game did not complain
- irritated by example at the top
- found a bug, sorted the wrong way but won anyway
- “it’s easy!”
- irritated by presentation change
- not sure whether she get more bonus points when not using the hints at all
- cannot find the right button

- did not notice that there is ‘back’ button
- the game is a new experience so “<”-button is different; expectation/metaphor differs

B.6.2. Transcript

(0:00)

R: So, like I said, me and my lecturer will be the only ones watching this stuff. Probably, will be only me actually, I’m not sure. You read the whole thing and understood about your rights?

P: Yes

R: Cool. Just one thing, I want to notice, I want to point out is, ermm, it’s not about your performance.

P: Ok.

R: It’s about your experience.

P: Ok.

R: So, it doesn’t matter how well you play, I’m just really interested in what you think. And this means, as long as you play, I want you to think out loud. What that means is, I want you to talk through what you think when you play. So if you want to click some stuff, I just want you to explain why you are clicking this and that, why you do certain actions. Or if you’re just thinking about, what am I gonna do next,

(0:01)

R: ... or this is not clear to me, Whatever it is that’s on your mind, just try to tell me what it is, by basically talking. You don’t have to look at me, just focus on the stuff, but try to talk while you’re using it but one thing that I want to point out before we start is, if I do stuff like ‘mh’ ‘yeah’ it doesn’t mean that you’re right or wrong or that I want to tell you

that what you’re doing is cool or not.

P: Mh.

R: I’m just doing that, so just to give you the feeling that I’m here and I’m not asleep.

P: Ah, ok. (laughing)

R: Stuff like that, so I’m not judging what you’re doing. I’m just doing ‘mh... mh’ because I’m... it’s just part of me, ok?

P: Ok.

R: Ermm, start the game. Just put the laptop the way you want it to be.

(0:02)

P: Mh.

R: So, It’s basically all yours

P: Ok. So will start (clicks on play, comic comes up)

R: So tell me, what’s going on?

P: Ok, is like a cartoon. Do I need to do something?!

R: I don’t know, you tell me. (tester laughing) Do you know what the cartoon is all about?

P: No.

R: Do you know the guy in the cartoon?

P: No, he does look familiar.

R: Have you used older versions of Microsoft Office?

P: Ah!! Yes, I know who he is. Yes, it’s the one who used to explain what was happening.

R: Ok.

P: Yes, yes, yes. Now I recognise.

R: Ok.

(0:03)

R: But you didn't recognise him straight away?

P: No.

R: Ok.

P: No, because I thought the guy wasn't this colour.

R: Ok (laughing).

P: So, (scrolls to the end of the comic, clicks on 'Help Clippy, comic closes and game comes up). Oh, it's gone. Ah no (laughing). Aaah (reads). How do I do this?

R: Do what?

P: How do I, do I need to change the font, this font to Calibri or Comic Sans, to Calibri, (unlocks hint).

(0:04)

P: "Select all the text in the Clippy resume". But I don't know Word, ey.

R: That's all right (tester laughing). Like I said, it's not about your performance, it's about your experience.

P: Ah all the text. Wonder if it is the same (presses CTRL + A). "Select all the text" (unlocks next hint) "home tab" (clicks on home tab, which already is selected). No, "home tab, one more hint", no is already there (unlocks next hint). "Calibri" (selects the right font and completes task).

R: What happened?

P: It worked.

R: How do you know?!

P: This is the guy. Because this is congratulation, I achieved 10 points.

R: Ok. Do you know what it means?

P: That I achieved ten points?! I can continue.

(0:05)

R: Yeah, but what do the points mean?

P: No, I don't know.

R: Ok. Do you want to continue? (clicks "Continue")

P: No, because I didn't read all this. 'Cause, usually I don't read too many words (both laughing, scrolling around in the comic).

R: It's a comic.

P: Yes, I should read, but I never like the comic.

R: Ok, fair enough.

P: (reads comic) Ah. (clicks "Continue"). "The middle age", Ah so this is what I am me myself, I think.

R: Mh, ok.

P: So this is the level, no? In the movie, in the game.

R: Ok.

(0:06)

P: (hovers over different tasks and descriptions show) Ah, I see.

R: What do you see?

P: I see that there is different like entry points, or something, like games or...

R: Ok, different in a way...

P: Because different subjects they will teach you.

R: Ok.

P: I think I will go, pie (clicks 'Robin Hood' task), I don't know nothing about pies in Excel.

R: You can eat them (both laughing).

P: Yes, not in Excel. That one "present the data below in a pie chart like this" (scrolls down), so this is the data, need a hint (unlocks hint). "D8, select the cells D8 thru E13 [...]"

(0:07)

P: D8, E13, select (unlocks hint) "select

inset tab” (selects tab, unlocks next hint). “Pie, pie 3, pie, pie 3D”. There you go! “Chart the chart layout with one click”. Click (clicks on the chart), with one click ‘click’ (clicks on the chart). “Need a hint, select the chart, selected. Select the design chart tool, design, design chart tool” (searching). Where is design? Design, “chart tools, chart tools, not layout”. I don’t know, disappeared. “Design chart tools”. I try select the design.

(0:08)

P: This one (clicks on a different colour option), this one (then clicks through different colour options). There are a lot (clicks on drop down), they’re all pretty similar. This one (clicks on next colour option). “One more hint” (unlocks hint) “In the chart layout, layout three”, ah chart layout three (clicks on right layout and completes task). This one. (takes a deep breath) Fifty, am I good. “try again, play again without hints”. No, no way I play without hints.

R: No way you play without hints?

P: Because I will never figure it out, because it’s very hidden everything.

R: But it’s about trying to play the same level again.

P: Without hints.

R: Do you...

P: To see if I learn?

R: I don’t know, what would you say?

(0:09)

P: Maybe, if I want to learn I should play around maybe to remember. Yes but I probably forget.

R: It’s up to you, whether you want to just continue or try again.

P: Yes, I will try but if I will learn (clicks

“Retry”). This one “change the chart layout with one click”. So was like this and what it was? It disappeared. “Data”, it was home, no (clicks on different tabs), “page layout” (clicks on insert tab), here, pie, 3D (completes first task). And “select the chart...” (completes task two). Ah, yes it’s good. But is, I always struggle with Microsoft Design.

(0:10)

P: Everything is so hidden, it’s not like Adobe.

R: Ok, but you just needed a few clicks, right?

P: Yes, yes, now I...

R: What do you feel about, that you got 10 points more?

P: Ah, is good. “With no hints”, so on top of this 50 I guess.

R: Do you know what the points mean by now? Any Idea?

P: No. The level that you are.

R: Ok.

P: I don’t know. No really I don’t know what it means. I guess is the level in the game. (continues) Ok. Yes it’s skill level, that you’re good.

R: Ok, what does it mean? Do you know what the skill level means or what it’s for?

P: Maybe to see if I am learning the work.

R: Ok.

(0:11)

P: (clicks on new level) Ok (reads). Change the table form from square to round. Change the table fill from walnut to oak. Ok, so one (unlocks next hints and follows them) “Format drawing tool, drawing too” (searching). This one, “shape”, is so difficult. Which one

is the drawing tool? You would think is the, is the, (clicks on drop down of insert shapes)

(0:12)

P: ... pen or something (unlocks next hint). Click, ah! This one. "Convert to round shape". Which one is drawing tool? This one is text, line, "shape". I don't know.

R: So, are the instructions not clear, or?

P: "Select format", I select format.

R: Mh.

P: Drawing tools. Drawing tools is a tool that I need to select? I don't know. Ok, the "edit shape change, edit shape, change shape", ah here. So this is circle, should be around here (clicks on circle and completes first task). Wow.

(0:13)

R: So why wasn't it clear in the first place?

P: Ah, because. If I go to this one "select...", no, where is? Ah, because I was here "home" and this was square and it says "select format drawing tools", so I went format and looked for drawing tools, but I couldn't find "Drawing Tools".

R: Ok, ok.

P: Ok! I thought drawing tools was a tool, because in Illustrator there is one that you can draw.

R: Mh.

P: But ok, never mind. So, second: "change the table fill from walnut to oak" (unlocks hints), "select the table... format tab". Yes (unlocks next hint), "shape fill texture, shape fill" (searching)

(0:14)

P: "Shape fill, texture, oak, oak might be one of this, oak" (completes task). Per-

fect. Yes, with this one I gain points (clicks "Retry"). No...

R: So now you want to gain all points, so this is why you re-try?

P: Yes.

R: Ok. So you challenge yourself?

P: Yes, because otherwise all the effort, where it is, is the question, ah here, here, here, (completes first task). And, ermm. Where it was? "Shape fill" (completes second task).

(0:15)

P: Perfect, perfect, 50 plus ten (clicks "Continue"). The rat one (clicks on next task). "Sort the table in ascending order by year, in ascending order", ok, "ascending" (unlocks hint). Ok, "select, yeah, thru G25" (unlocks next hint). "Select home tab", home (unlocks next hint). "Click sort and filter, sort smallest to largest, sort and filter, sort and filter" (completes first task). Perfect, he reckons.

(0:16)

P: I will play again (clicks "Retry", repeats the task and completes level). Very good (continues). Ok, I do this (selects next task). "Ring around the rose. Text cycle, all colour, insert the Smart Art graphic called text cycle". This one (unlocks hint). "Select the insert tab" (unlocks next hints). "Click Smart Art".

(0:17)

P: And then what (closes window to access next hint)? "Chose a smart graphic and click cycle on the left, click cycle...", ah I see, I see. Cycle, cycle, cycle...text cycle, which one is? "Text [...]", ok (completes first task). "Add colours, text, text cycle [...]" (unlocks

next hint). “Smart tool [...]” again, ah this not a smart tool, this is the smart tool, haha, is here (laughing).

P: I see, I found it.

R: Mh.

(0:18)

P: “Change colours, change colours, change colours, accent colours” (program tells her that she completed the second task, even though the colour has been changed on only one flash). So, do I do with all of them. No, what is doing?

R: Ok, so it’s not clear to you what happened?

P: No, because it says, I need to change the accent colour.

R: Mh.

P: What for? I don’t know, maybe I should type. “Add colour, accent colour. Add the white outline to make the graphic look like this”. Ah, so do I need to type this? No. This one is, I need to. Do I need to do the same text? “Insert graphic called text cycle, accent colours”. To change this colour. Ok, “white outline style to make it look like this”.

(0:19)

R: So do you know which colour you need to change to?

P: Yes, orange, red, is, it should look like this, isn’t it? Look like. But this one is always black, I think, so this one must be a colour, I don’t know. I don’t pass this one.

R: How do you know you won’t pass this one because it tells you that you added the colour, right?

P: Yes, but is not, I can’t see the colour added.

R: So you’re not satisfied with the result.

P: No, because it doesn’t look like this. So, no, it’s very different. It’s an outline.

R: Ok.

P: (clicks on a different outline and congratulations screen comes up) What?! (laughing). You finish...

R: So you...

P: I will come back, I will fix this.

(0:20)

R: So you don’t know why you won?

P: I thought, no, because I thought it needed to look like this. So I thought maybe I will type the words and try to make this same.

R: Ok.

P: So, now I lost this, I will put it again, I will put it again. So insert, “Smart, cycle” this one (completes first task). There you go. Ah, I see, I see, I see, I see... (selects the wrong colour and outline, but game shows congratulations screen for completing task). I finish (laughing).

R: So now your result looks different again.

P: Yes, but is ok. But I don’t know, it didn’t look like the other graph, but I just changed the colour.

(0:21)

R: Ok.

P: (clicks “Continue”) Ok, so, this one (clicks on next task). I do that one. “Change the effect option to make him fly in from the left. Use the ribbon to preview the animation. The ribbon is the strip of buttons across the top of this window.” Ok. (reads) Ok. “Apply the fly in animation to make [...]”, ah ok. So where is, Should I select him? (unlocks hint) “select him” (unlocks next hint),

“animation tab, animation” (unlocks next hint).

(0:23)

P: “In the animate list, click fly in”. Animate, this is the list, ah this is preview. So which one is fly in? Doesn’t say, no. Ah here, “fly in” (clicks and completes first task). Where is the guy? Disappeared, ah! There we go. “Need a hint, select...” Ah no, finish. Oh no. “Change the effect options to make him fly”, ah ok. Ah, because it’s coming from the bottom (unlocks next 2 hints). “Animation, custom animation. Select the knight, custom animation, custom animation.”

(0:24)

P: One more hint” (unlocks hint). “The direction list, click from left, direction list from left” (completes task). Ah, perfect. Is good. “Use the ribbon to preview the animation.” Select the ribbon, the animation, select the click preview. Select the animation. So the ribbon was something. What was the ribbon? This one? I will just go preview, basically. No, review not preview (laughing).

R: So you don’t know what the ribbon is?

P: No. I did read it at the beginning, but I forgot. Was something, it did explain. Can I go back and read? What was the ribbon? I don’t know. Maybe I can go back, maybe not (clicking around). Ok, doesn’t matter, I will preview. Preview, ah preview (clicks on preview and completes task). There you go – preview. Maybe, if I go back I can find out.

R: So, it was mentioned to you what a ribbon is?

P: Yes, did explain but I didn’t take at-

tention.

R: Ok.

P: Doesn’t matter (clicks “Retry”). Cause I don’t like to read too much. I am, I like simple things.

R: Do you think this is difficult?

P: Yes, because I need to read a lot. I need to read all this. And then probably, I’m very like, when I want, when I learn, I learn very quickly. I learn more, trying and error, trying and error, constantly.

R: Mh, ok.

P: Instead of reading manuals.

(0:25)

R: Ok.

P: So maybe this doesn’t help. See, I remember this: “The ribbon is the strip of buttons across the top of this window”. I see. So “animation, fly in” and then was “custom animation from left” and then “preview”. Perfect. So this is the ribbon.

R: Ok.

P: But when I read and I know I have to read all this, this and this to figure it out. And plus, I know I have hints.

P: So I don’t know which one is more important.

R: So it’s kind of irritating that you have double instructions?

P: No, it’s because, I’m used to when I’m learning, just to do it, trying and error trying and error. But now I need to read all this.

(0:26)

R: Ok.

P: So I go very quickly.

R: Ok.

P: And I don’t really take a lot of attention. This is because I learn every day.

Obviously, if somebody takes a course or a class takes more attention, they have more patience. Usually I don't have time, you know. Ok. And probably the best idea is to read carefully. It will save you time, hehe (laughing, has completed second level, clicks "Continue" and comic comes up). But I'm used to like this. See! All this I need to read – ay no.

R: Do you know why that happened?

(0:27)

P: What happened? I am in the other level. Yeah, I am...

R: Do you know why you're in the other level?

P: Because maybe I finished all the exercises of the level (clicks on next task). Ok, I need to change the pie chart, I need to select the graph, the chart (unlocks hints). "Design chart tools" (unlocks next hint), "change chart type to [...]", ah sorry. I need to change it to.

(0:28)

P: To what? Can't remember. To this one: "cluster column".

R: Do you know why it's already crossed out?

P: Because I opened the next hint. Ah, oh no, because I already did a.

R: Did you?

P: No, I didn't do it, but what I mean: I did, I did. I don't know why it's crossed out, actually. 'Cause I didn't do it. But this disappeared and I forgot that it needed to be clustered column. "Clustered", what is clustered? Column, column, "clustered column", line is line, clustered.

(0:29)

P: Change the chart type. One more

hint. "Click [...]". Yes now I can find "column".

R: What do you think, when you open a window and then you want to click on 'more hint' and you can't click?

P: Because the hint is here. Yes it's not, maybe I should open first and then go (completes first task). "Change [...]"

R: Do you think opening more hints changes the amount of points you will get in the end?

P: Ah, maybe. No I didn't realise. Could be. But doesn't say that it's deleting my, because I can't see my points.

(0:30)

R: Ok.

P: So, I don't have like add to cart sort of thing. So something failed basically because there is no balloons. No balloons.

R: Ok.

P: In this instance.

R: So, balloons tell you that the action that you did was right.

P: Yes. So what do I do, shall I retry? (clicks "Retry") "Change the chart type from pie to clustered design" (repeats the task). Ah yes, did, I did see some balloons. So something changed. But still I didn't win.

(0:31)

R: But do you know why you didn't win yet?

P: Ah, because need to look like this, maybe. Black, needs to look black.

R: Have you followed all instructions?

P: Yes, all what it says here. Ah, here is more. "Apply chart style", I did. Ah, "apply chart style, select the chart, design, chart tools, layout type." Yes, again (unlocks hint). "Chart style, style 46, in

the chart style gallery”, must be this one. 46, how do I know? “23, 39”, ah here, “46” (completes task), ah there you go. Should we go back (clicks “Retry”). So is like this, “type, cluster”, this one (completes both tasks). Amazing!

R: So, is it amazing? Does it motivate you to keep on playing if you get this...?

P: Yes, if I win, otherwise is sad, is very sad (selects next task). Ok, “apply a build in theme to this presentation, so the next slide will look like this”. So the next slide look like this, next slide look like this, ok. Ok (unlocks hints). “Select design tab” (unlocks next hint). “Theme galleries click civic”, civic. How come (clicks on civic and balloons come up for completing the task, slide looks blank). Hmm, ok, something happened.

R: But you’re not sure what happened?

P: No, because I thought, I wasn’t, I was not sure, I look like retarded (clicks “Retry”). So “who broke the sphinx? Apply a build in theme to this presentation, so the next slide will look like this”. It needs to look like this. This one is civic, yes. Ah to this one. Must be, (selects second slide). Ah, ok, ok.

R: Do you know why you won in the first place?

P: Because I chose the theme.

R: Ok but it tells you, you need to apply the built in theme to the next slide, right?

P: Yes, so and I applied to this one.

R: But, so you just won.

P: How come? Very strange! Ok, so I will put it here, then should be fine, “civic”. I won again. Amazing! Ok, selects next task.

(0:35)

P: “Decipher, document margin narrow. Use the ribbon command to change the document orientation to landscape so the table fits better. The ribbon is the strip of button [...]” Yes, now we know. “Did you know that the Egyptian [...]” (reading) Ah, ok the margin. “Need a hint, need a hint”.

R: I noticed that you always click on ‘need a hint’ and later on you re-play. You do that because you know you can get all points anyway.

P: Ah, yes.

R: Would it change your behaviour if you knew that you can play it and you will get all points only if you don’t use the hint.

(0:36)

R: But if you use, the option is gone, so that you can’t win the extra points anymore? You know what I mean? Currently, you know you can play it and you can come back, retry and you get all points by not using the hints. But would you change your behaviour if you knew that if you play it without a hint, you will get all points. But if you play it with a hint, then you can’t go back and play it again to get all points.

P: Ah yes, no I think I would use the hints.

R: Ok, so you still would continue using hints?

P: Yes, I will use hints because I think, because you, I think when you play you need to know what you need to do, to see if you can achieve. And the hint is what it give you the sensation that someone is telling you what to do, so to see if you can do it.

(0:37)

P: You know, otherwise it's not a game. But I am not thinking about learning. I'm thinking if I can do, find this or that. I'm thinking if I can find that, it's so hard to find (laughing).

R: So you don't feel like figuring out how to do it on your own without clicking on a hint?

P: No, because, probably, because probably, because when I, because I probably start ignoring everything when I do that. Because, I know I already tend to do that, it's hard for me to be in the game, thinking that the way I learn is just touching everything, breaking everything, very quickly. Because, you know, I don't have, so if I start doing that I will have, I won't be able to follow what's going on, because I'm too quick. I won't be able to read and, you know, so either one or the other. I don't think I can do.

R: Ok.

(0:38)

P: So, yes. "Use the ribbon command to make documents margins narrow". So, I don't know now. Yes, I need to do, cause otherwise (unlocks hint), "page layout", ok, "page layout, page layout" (unlocks next hint). "Margin, normal, narrow" (completes first task). Is not? No, it's good. "Ribbon, orientation, landscape" (completes second task). Easy! And with this one I win points. Oh no. Ah yes, maybe.

R: Do you, so do you know how the extra bonus points work.

P: If I do it without hint.

R: Without any hint.

(0:39)

P: Yes, but now I know. Where is that? Page layout, this is for margins, now orientation, landscape (completes task again). Congratulations. So, I did, which one I did? Can't remember! Ah this one that I have the green. This one is something else. "Take meeting notes in One Note". What is that? Is loading, "Pharaos list. Select the first list. Tag each item in the first list as to do". What shall I do? "Select the first list and remove tags." (mumbling).

(0:40)

P: So do I need to remove this? (clicks around) Ok. I don't know how to do that (unlocks hint). "Select the 3 lines in the first list" (unlocks next hint). "On the toolbar click tag, remove tag". Hmm, oh my god! "The three lines [...] tab, remove tab, tab, tab, tab, remove tab" (completes first task).

(0:41)

P: "Tag each item in the first list as to do". Do I need to, is already done. "Tag each item in the first list as to do, or the first tag in your list". This one is first item. "Tag each item in the first list as to do, need a hint. Select the 3 lines in the first list. On the toolbar, click the first item in the tag list. To do", no, must be here (completes second task).

R: So you stopped and you were thinking for a few seconds.

P: Because I thought, "first item" is the first item. I thought something is called first item, not the first item.

R: Alright, so first item of the list and first item in the list when you click on the button.

(0:42)

P: Yes, because, you know, in Photoshop you have, in the paragraph of illustrator you have first item, so you will indent the first line. So I thought that one was one like a tool. So should I try again. So basically is.

R: So you always try again to get all points. Do you want to collect all points?

P: Yes.

R: Do you know what the points are for?

P: No. To go further maybe, in the level?

R: Ok. But earlier you said you go further by playing all games of one world or level, whatever. And now you're saying that you need it to go further in the level. So you're not sure?

P: Yes, I don't really know. But I think the skill levels are based on the amount of points you accumulated. And I think if I have more points I have more skill or something.

(0:43)

R: Ok, so it's just a representation of your skills.

P: Yes. "Tag, tag, remove tag" and the other one, first item (completes both tasks required). Perfect. (selects next task, mumbling). "Slide to title only, need a hint" (unlocks hint), "select home tab, click layout title only". Ay no, I did something wrong. "Layout, title only" (completes first task).

(0:44)

P: "Hide the slide two, so it doesn't appear in the slide show".

R: You said you did something wrong. How do you know when you do something wrong?

P: Because I clicked something by mistake, but didn't complain.

R: Ok.

P: "Hide the slide two, so it doesn't appear in the slide show" (unlocks hints), "right click, hide slide, duplicate, hide slide" (completes second task). "Duplicate slide three with just one command" (completes third task and this level). Wow (re-tries level). This one hide (completes second task), this one.

(0:45)

P: Duplicate (completes third task). Hmm! Yes? Maybe no? What happened? (clicks "Retry"). "Change the layout of this slide, ah, title only. Title only" (completes first task). And then hide, and then duplicate (completes two remaining tasks). I forgot title only. And that one is good (goes to the next level). "Catchier song lyrics. Replace the word saunter below with a different word with the same meaning using just the right click menu". What is this word saunter?

(0:46)

P: It's a pity, I don't know what does it mean (unlocks first hint). Ah maybe, there is synonyms (unlocks next hint) for might be. "Right click the word, synonyms, walk" (first task completed). I didn't know, I never heard of it before. It's very different (clicks "Retry").

R: So now you learned a new word.

P: I don't know how that sounds, there are no sound, I put another synonym "amble" (completes the task). Doing that, maybe like Michael Jackson (commenting about Egyptian character, clicks "Continue" and congratulations come up for completing this world). What happened? Nice (smiling, clicks "Continue" and comic comes up).

R: Have you played all levels?

(0:47)

P: How many levels?

R: Have you played all of them? Is this why you advanced?

P: I don't know, look like was a lot, that I played already. I don't know if all of them. Let's carry on, though. Yes, maybe yes because it says, haha (laughing at the comic and reading). Ah, mummified, haha nice. I remember this one [picture], but I thought it was another colour, I thought was blue or something. Or maybe it was blue background all the time or something.

R: Could be, I don't know. I think it was actually grey, probably the background was blue.

(0:48)

P: Yes, maybe, but I can't remember (clicks "Continue"). Ok, ah continues, the 60's (clicks on next task). "Remove duplicates from the table, sort remains rows by song title so the table looks like this". How I do? (unlocks hints) "Select the table, data, remove duplicates, select the table" (clicks on table in the instructions pane). Which one is the table? Ah this one, table. Huh, what did I do? (warning message comes up and gets clicked away) "data, remove duplicates" (completes first task).

(0:49)

R: So you get some notification when you chose the wrong path, right?

P: Yes.

R: Because you clicked something and it showed you...

P: ... and it didn't work. "By song title" (clicks on 3 hints), "sort A to Z". Where

is sort? "Data tab, click sort, sort", here, no, something wrong. (selects table cells only, without header) Like this, "sort". ('wait you are going the wrong path' window comes up) "Try a different button, continue". Ah, so, no.

(0:50)

P: This one (completes second task and congratulations window comes up). Very good (clicks "Retry"). Again! So what do I do? I duplicate, I delete all duplicated, "remove duplicated" (completes first task) and then sort A to Z (completes second task and congratulations come up). Good, continue (selects next level). "Fashion through the centuries. Use the ribbon command to make the table just wide enough to fit its content" (clicks on all 3 hints). "Layout, table tool, auto fit..."

(0:51)

P: "Select the table. Layout, layout", maybe something else, "Page layout...", no page layout is not, I don't know. Ah here, layout, auto fit content, auto fit content (completes first task). Perfect! "To make the table as wide as the page [...]" (unlocks hint).

(0:52)

P: "select the table" (unlocks next hints). "Layout table tools, auto fit, auto fit window, auto fit, auto fit window" (completes second task and congratulations screen comes up). I'll do it again, this one is difficult (clicks re-try). Select this, layout, auto fit, auto fit content (completes both tasks). Is easy! Ok (selects next level).

(0:53)

P: "You need a favourite song. Ignore the

first duplicate word that is flagged in the lyrics. Use the playback controls to play audio clip” (completes first task).

R: You didn’t need the hint.

P: No, because it was here, wasn’t hidden. This is the problem with Microsoft, everything is hidden, you know. “Ignore the first duplicate word that is flagged in the lyrics”. Huh? Ignore? How ignore? (unlocks hint) “Right click on the duplicate word”. So which one is? (confused, replays song) How many baby?!

R: So you listen to the song because it’s related?

(0:54)

P: How many babies. How to see how many babies? What happened? “Ignore the first duplicate word that is flagged in the lyrics. That is flagged in the lyric...Hey baby baby baby”. So what should I do? “Right click on the duplicate word” (unlocks hint), “click ignore”. Which one? This one! How many babies? Two! How many babies?! Baby, baby, hahaha. I will just do this one. I will do one. How many babies?

R: So is this instruction related to the song?

P: I think that it’s related to the lyric. But I don’t know what the relationship between the song and the lyric is.

(0:55)

R: So the instructions are not really clear to you?

P: No, I don’t know the relationship between the audio that is here and the lyric. Because it says: “Ignore the first duplicate word that is flagged in the lyrics.” The first duplicated word must be this one, but could be this one too. I don’t

know, maybe I need to check in the lyric because must be a reason why this is here. So I think, maybe I should check in the song to see if there is one baby more or something, hahaha, I don’t know. I am being too complicated. Maybe I just ignore this one and that’s it. And I right click, “bullet, numbering” - there is no ignore, probably, “the duplicated word”.

(0:56)

P: No, is not. Maybe this one? Oh, is very strange. Here (completes second task and congratulations screen comes up). Bah! Was in the title, I told you. But I’m coming back (clicks retry). Why is this one there (completes first task, laughing). How many babies?! I don’t know, baby, baby, baby (completes second task and congratulations screen comes up). Haha, this is funny.

R: You like this kind of approach?

P: Yes it’s funny (selects next level).

R: Or you like this type of presentation?

P: Yes, I like.

R: Do you like Clippy?

P: I didn’t like before, like in the time? It used to be a bit.

(0:57)

P: Because it’s exactly the same thing, you want to get things done and all of a sudden this thing fly in or dancing. Usually, it’s already frustrating, the fact that you don’t know, you know.

R: But you like this presentation here?

P: Yes, but I didn’t like the way he was animated and showing all of a sudden, you know.

R: In the previous version.

P: Back in the time, yeah.

R: Ok, what I mean, you like the presen-

tation in this game?

P: Yes, I do

R: Well, do we call it a game? Do you think it's a game?

P: Yes, it's a game.

R: Yeah? Why do you think it's a game?

P: Because this sensation that you are in a timeline and you're being measured.

R: Ok. You're being measured because you collect points?

P: Yes!

R: And you have this experience?

P: Yes, and I try to do, you know, goals, to achieve goals.

(0:58)

P: So, "Paste the transposed version of the table below". Ok. Paste? Can I go and paste? Maybe not (clicks on 4 hints). "Select the table", copy, click B7, home, copy, paste, B7, home, paste, transpose (completes task and congratulations screen comes up). Wow.

R: You know what just happened?

P: I just copy this to this. Oh well, yes, it's good (clicks "Retry"). It's pretty good.

(0:59)

P: Copy, transpose (completes the task again, congratulations screen comes up). Yes. Did I do it again? Can't remember. Yes, I don't know (Clicks "Continue" and selects new task). "Hippie rhymes". Francesca would call it 'Ippies' (joking, reading). "Grow the font size, shrink the font size of the second word balloon with one ribbon click too". Grow, grow, the whole thing? Grow the font size. I can grow it (completes first task). "Shrink the font size of the second [...]" this one, yes (completes the

second task and congratulations screen comes up). T(1:00:04): Perfect. Ok, carry on. This one is different.

R: Do you know why that happens?

P: Because I didn't use hints.

R: So, because you don't use hints it appears here?

P: Ah, this is the first time I don't use hints.

R: Ok, and you think this is the reason why the presentation changed?

P: Yes. It's different, ey? So I, maybe I shouldn't use hints.

R: But does it give you any advantage? I mean, the presentation changed, but apart from the presentation.

P: It gives me 100, no?

R: Yeah. But when you retry.

P: It gives me around the same.

R(1:01:04): Ah, so you're not sure whether you now get more?

P: I don't know because maybe for, I don't really know, because I don't have a graph that I see the difference. But maybe I get the same and then I gain a little bit because I do it again without hint. (clicks "Continue" and selects the next task). "Copy the text from the picture automatically. Paste the text in the empty table cell. Change the font colour to dark red. Copy the text from the picture automatically, automatically. Copy the text from the picture". Which text? (unlocks hint) "Right click on the poster, copy text from picture" (completes first task). T(1:02:02): "Paste the text in the empty table space." Here, paste (completes second task). "Change the font colour to dark red". How do I change? (unlocks hint) "Select the text you just

pasted”, yes. Huh, my god, what did I do? (unlocks next hint). Oh, I unselected it. Ah!

R: What happens?

P: It moves. “Formatting, font colour, dark red, formatting, on the formatting toolbar.” Format must be, font colour (mumbling). T(1:03:05): I am in the wrong, formatting? Toolbar? Or toolbar? I don’t know. Here, but has nothing to do, (completes third task). Ah, this is the formatting, I don’t know. Ah this is the formatting toolbar. Must be and there is the rest. (clicks “Retry”) So again, click, copy, paste, colour (completes all three tasks, but the program doesn’t react to the third one). Bah! “Change the font colour to dark red”. Is now (selects an orange colour, this time from the drop down menu and the congratulations screen comes up). T(1:04:01): Ay no. I did it the wrong way, I moved for one millisecond (clicks continue and the screen comes up saying that his world has been completed) This one is missing (points to a task that was left over). This one is missing, you forget...

R: So you don’t advance by playing all levels.

P: Aaaaaaaaah. So I’m going back. So this one is not allowed?

R: Do you want to go back?

P: I’m going up or down? This is level three? Ah, no I’m fine, I’m fine, no, no, no, I’m fine. I thought I went down.

R: Ok, but you still didn’t play this one.

P: This one not.

R: Do you feel like you want to play this one?

P: Yes, I think because I am missing to learn something.

R: Ok! And you would like to learn everything?

P: Yes, because this, each one was a subject (reading comic and scrolling it back and forth). R(1:05:08): So do you know what this comic tells you?

P: The story about the life of this. No I don’t know (laughing).

R: But you don’t know means that you’re not really sure?

P: No, no, I don’t know. Now, is going to the army, but is kind of in this history as well (clicks continue and selects the next task). “Athens vs. Sparta”

R: When you pick a level, you just pick randomly?

P: Yes, do I need to have an order?

R: I don’t know, I don’t know. Do you think it’s important, the order?

P: No, because I think the subjects are related to what you need. R(1:06:03): Ok.

P: But maybe I will need more charts, other person will need more tables to learn, you know? And usually you don’t get to learn the whole program because it’s too big. Ok, “apply a red table [...]”

R: Do you think if you play the whole game you will learn everything?

P: No, because you never learn all the program. It’s always too big for someone to learn. “Apply a red table style”. Maybe I should try, no? “Font colour”, how do I do? I don’t know (clicks on 2 hints). “Select the table, design table tools, design” (unlocks next hint). T(1:07:03): “Light shading”, this one, yes (completes first task). What else do I do? “Apply special formatting to the table row with one ribbon click, total

row” (clicks on total row box and balloons come up, but tick doesn’t appear in ribbon). What? Total row (clicks a couple more times on total row box, but no tick appears. Mumbling). Strange...

R: Do you think it didn’t change anything or what do you mean by strange?

P: Because doesn’t allow me [to tick the box]. “Apply special formatting to the last column with one...” (keeps on clicking on box, even though task shows as completed; mumbling, clicks on all hints). “Design tools, table style options, last column”. T(1:08:01): So, I need to select this. “Table style options. Design, table style options”, here, last column.

R: How do you know that it’s here?

P: Because here it says “table styles, options”. Ah here, “options, last column” (completes last task and congratulations screen comes up). Bah, nothing changed. Ok, I will try again (clicks “Retry”). This is one like this but doesn’t change. “Red, design, red” (completes first task) and then is this one, but doesn’t work (completes second task).

R: But you continue anyway?

P: Yes, is this one. T(1:09:00): Total row should be, isn’t it? (completes third task and congratulations screen comes up). Very strange! Ok, huh, I click and it went away. Here is. This one did I do? I’m confused.

R: Not yet, so you’re confused which one you did and which one you didn’t?

P: Yes, because I can’t remember if I did this one. Maybe not, because it doesn’t have the, the green and you know the tick.

R: Have you actually noticed the button in the top left corner?

P: No.

R: Do you know what it means, that button?

P: No. What is this? “Go to the previous level”. Ah ok, I can go back. Ok, shall I go back? No.

R: No, I think. R(1:10:02): Do you know for how you’re playing?

P: No.

R: Do you know what happened around you, while you were playing?

P: No. The cat came, this you mean?

R: Yeah, did something else happen? Do you think you know what happened around you while you were playing?

P: Not much, not a lot.

R: So you were concentrating?

P: Yes, yes.

R: And so, did it draw you into the game, do you think?

P: Yes.

R: It gained your concentration.

P: Yes, but this is my concentration. Usually not very concentrated.

R: Usually not very concentrated, but with this one you think you were concentrated?

P: Yes, yes, yes, I was concentrating, yeah, was good.

R: So you like this approach. You played more than an hour, so far.

P: Ah, yes a lot, no?

R: Basically I want to stop playing this game and then just ask you a few questions. Do you think you learned something? T(1:11:00): Yes.

R: Do you think you could repeat that without the game if I asked you to order a table?

P: Yes, I think I could.

R: So you think you could repeat a lot of the things that you just saw.

P: Yes.

R: Would you use this one to learn, to learn more about office in your private time?

P: Maybe, yes. Maybe, I like more simple games. I like for example to learn how to type very quickly with Mario. And then Mario, you know, will show you the position of the hands, when I was a kid and then you needed to use a particular fingers.

R: But this was similar, wasn't it? Because it told you instruction 1, instruction 2, what you needed to do and then you just.

P: ... carried on.

R: ... yeah, you just carried on doing that. It was similar, wasn't it?

T(1:12:01): Yes, I think I will try.

R(1:12:03): Would you use this one at work to learn Microsoft Office?

P: The problem is, depends which kind of, my work it's not a problem but maybe in another kind of job, they will think I am playing instead of learning.

R: Ok, so it's not really clear whether it's a game or it's a learning tool?

P: Yes. This is the problem, what the people will think.

R: Right.

P: Like it's the same, like, if I say it's the same case like Mario. When they see me play Mario they think, that she's wasting her time playing Mario but actually trying to be fast typing.

R: Right.

P: So it's that way, I don't know. Depends the manager you have.

R: Right, ok. Yeah, I think basically that's it. Anything else I wanted to ask you? R(1:13:03): No, I think that's it so far. Do you have any questions for me?

P: No, I think it's all good. And then how many levels that it has?

R: I think it has 6 levels altogether.

P: It's a lot of work, no? To do I think.

R: I think they spent some time to implement this game, yes.

P: Ah, who did it?

R: It's developed by Microsoft Office Labs.

P: Ah, I see.

R: So a division by Microsoft Office. So, it wasn't me.

P: It's good. I like the style and everything. But I think they still have a problem with hiding. Microsoft has a problem in the design that they hide and that is one of the usability, that everybody knows that if you, more people tend to be used to have things easy to reach. T(1:14:03): More expect things to be easy to reach. So, if they're hiding, like this one for example(back button in top left corner): I used to design like this some years ago, but now it wouldn't work. It needs to put a name saying back or something very short, you know? I don't know why.

R: Ok.

P: But it's true because then you are used to finding this and then you expect to doing things very quickly without reading or understanding.

R: So what you mean by hiding is just simply have buttons without text next to the button is not enough.

P: No, yes, it should have this. If it means to go back it should have 'back'. R: Ok. P: It should not only have the design but the tab and the tabs should be very short. R: It should have a label you mean? P: Yes, yes, label or text or something. R: But you, when you say it's hidden you don't mean that it has several tabs. P: Ah no, no, no but the, I mean if you don't tell me I wouldn't know that this is to go back. T(1:15:02): Only watching the design. R: So the game didn't tell you what the	button is? P: No. But I think the problem that Microsoft always have is this that they tend to resolve things with design, you know, with icons and it doesn't really work. Because, in order for you to find out what it is, you need to roll over to see what it is. So people just always roll over, just to read what it is, 'cause the design is too complex. R: Ok, cool. If there is nothing else that you want to say, I stop the recording. P: Ok.
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