Tutorial usefulness in videogame Wii consoles: Fast learning of guidelines and game movements

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ABSTRACT

One of the key challenges of video game design is teaching new players how to play. Although game developers frequently use tutorials to teach game mechanics, little is known about how tutorials affect game learnability and player engagement. Seeking this problem, this paper intends to analyse the efficiency and usability of the Wii Sports tutorials and also the user's learning curve. The study was based upon heuristics, direct observation of the users and questionnaires, in order to evaluate all possible variables.

KEYWORDS

Usability, Tutorials, Games, Learning, Game console, Contextual help

1. INTRODUCTION

Since the invention of computer games that companies specialized in video game development are concerned in providing the game with a tutorial with the rules and basic movements, thereby providing users with all information necessary to play quickly and effectively. The training mode and context-sensitive help within the game, available with the new generation of games, came definitely to replace the manual on paper.
In the literature many researchers argue that contextually relevant tutorials have greater potential for improving application learnability (Grossman & Fitzmaurice, 2010) . Although this type of learning is more attractive and easier, there is still a gap between what is taught to the players in the training mode and what they really perceive. Some practice time and ability to deal with some initial frustration and stress are necessary, in order to acquire the knowledge base to play properly and independently (Andersen, 2012). Games are structured activities, practiced for recreational and educational purposes. They are also increasingly used as a support tool to the development of physical and intellectual abilities in individuals with special needs. Usually games have only a few rules and these tend to be simple. Rules are a fundamental part of any game. It is impossible to play without knowing the basic rules, such as were is the beginning (start) and the end of a game, the number of players (single/multiplayer) and the main controls. The main objectives of this paper are:

1) To analyse the efficiency and usability of the tutorials in games
2) Measure the learning curve for players
3) Demonstrate the utility of tutorials and context sensitive help

Despite the diversity of game consoles, the usefulness of the tutorials is an issue that cuts across all platforms. This paper focuses exclusively on the Nintendo Wii console (Sports, 2013) and the collection of games from Wii Sports (tennis, boxing, baseball, golf and bowling).

2. PROCEDURE

The study based upon a sample of 100 users, ages 15 to 30 years old, with varying gaming experience. The goal was to assess the training mode impact in the player's adequacy to the game.
The sample was divided randomly into two equal subsamples: sample 1 and sample 2.
Sample underwent a training phase, followed by a 20 minutes interval and a gaming phase. Sample 2 was only subjected to a gaming phase. The training phase was performed to give the players information on how to select the menus, basic functionality of each game and possible moves. In the game phase, the same training tasks were evaluated, which allowed the assessment of the tutorial efficiency in sample 1, the concept assimilation and game usability. In the last part of each phase, an individual interview to gather the participants insights thru a Likert evaluation scale, where 1 represents Very Hard and 5 Very Easy.

3. RESULTS AND DISCUSSION

The results focused on the analysed variables, namely: learning curve, user's direct observation and answers to two questionnaires considering the two distinct samples. In the table below, are present some of the items evaluated from the questionnaires made to sample 1 and sample 2 using the Likert scale.
By the analysis of the questionnaires, one can see a higher degree of satisfaction by the users who had a training phase, sample 1. Despite the opinion of the users reflect this idea, the learning curve didn't reveal the same.
One of the goals of this paper is to understand the impact of tutorials in the learning ability. In order to do that, the time each user spent choosing the Wii Sports game until accessing the main menu, was recorded, Figure (1). This time was measured in the various modes and games, and only a 5% decrease in time, in sample 1, occurred between the time of selection in training and game modes. The discrepancy between the time of selection in training mode and the time in gaming mode, in both samples, shows no advantage in doing the training mode. The difference, in average among the various training modes, isn't significant. Applying a *t* test with 95% significance, the null hypothesis is always accepted, which confirms that the average times are not statistically different among the various modes.

	Training Mode	1	2	3	4	5
Sample1	Cursor response to controller movement	10%	45%	25%	15%	5%
	Controller handling (Ergonomics)	5%	18%	20%	19%	38%
	Training mode selection	35%	23%	20%	12%	10%
	Identifying graphic symbols in menus	5%	35%	20%	25%	15%
	Training mode instruction reading	25%	25%	20%	30%	0%
	Game Mode					
	Cursor response to controller movement	25%	25%	15%	5%	5%
	Controller handling (Ergonomics)	0%	10%	20%	30%	40%
	Game mode selection	0%	0%	0%	80%	20%
	Identifying graphic symbols in menus	0%	10%	20%	30%	40%
	Game mode instruction reading	0%	5%	20%	20%	55%
Sample2	**Game Mode**					
	Cursor response to controller movement	40%	50%	15%	10%	5%
	Controller handling (Ergonomics)	5%	25%	25%	20%	25%
	Game mode selection	10%	30%	10%	40%	10%
	Identifying graphic symbols in menus	10%	15%	40%	25%	10%
	Game mode instruction reading	20%	15%	30%	30%	5%

Table 1: Questionnaire results in Sample1 and Sample 2

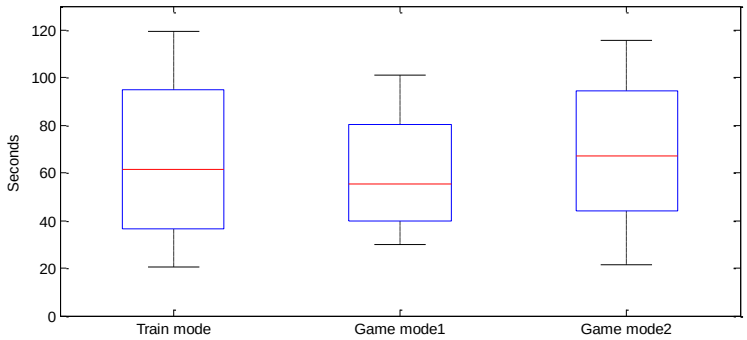

Figure 1 Boxplots of the time in distinct modes: training mode and game mode considering the two samples

Despite the times being close among the various modes, one verifies that the average times are high, Figure (1). Analysing the user's behaviour and the questionnaires, it is concluded that the selection mode disrespects two of Nielsen's heuristics (Nielson, 1994) , namely 2 – Relationship between system interface and the real world and 4 – Consistency, since the symbol portrayed might lead to the assumption that it might be another game of physical activity.

Concerning the response in the game to the user's movements, the latter revealed some insatisfaction and frustration. After comportamental and questionnaire analysis, Table 1, it was observed that most users didn't perceive some of the commands, such as rotate and spin, assuming those commands would be provided by aiming the controller in the right direction and not by the directional arrows. Furthermore, 45% of the times, players considered that there was a tendency of the ball to go to the left side and not following the controller issued movements. One would expect some sort of help to teach the movements, but even with the training mode and contextual help, only the basic moves are learnt, thus making the learning of more complex moves more dependant on game progression. This way, the game becomes more interesting, empowering the player, who in turn, can show his skills in a group match.

4. CONCLUSION

The results suggest tutorials might not be as effective as they seem. Designers should consider the complexity and the discovery of game mechanics, to decide whether they should invest resources in tutorials. In this specific case, one verified that the training phase has no advantages in what concerns the user's adaptability to the game. The learning curve didn't suffer any obvious changes between the two samples. Furthermore, the usage of side movements and spin didn't respect Nielsen's heuristic, especially if one looks at the Wii console as a modern times console, where the interaction interfaces are close to the natural human movement. Users expect to grab the controller and simply throw the ball to the desired place, the way they want without the need to use specific commands. The game model doesn't correlate to the user's mental model, however, the satisfaction level is high in the tested games.

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