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From "spectator knowledge" to "pragmatic knowledge": how a philosophical understanding of knowledge can help create better video game tutorials

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Introduction: What Does the Player Know?

What do players "know" when they know how to play a game? This question was of high interest for a group of Quebecois video game designers crafting tutorials for "casual games". This gaming trend opened video gaming to new groups of players, some of whom had no previous gaming knowledge. Teaching them how to play thus became a significant challenge for game designers. This paper will undertake a philosophical examination to better understand how game designers crafted tutorials for these new players. The results suggest that designers question their implicit understanding of the concept of "knowledge" fairly deeply in order to meet their audiences' needs. They reject a "spectatorial" vision of knowledge and embrace a more pragmatic one—creating in-game tutorials where playing and learning are unified.

General questions about knowledge are pervasive in many different fields, and the relation between learning and video games has been a subject of interest for decades. This interest has fuelled a large body of literature addressing different knowledge phenomena. For instance, researchers in education have produced a substantial amount of scholarship concerning both how video games promote learning and what specific learning outcomes they yield (Gee 2003; Dondlinger 2007; O'Neil et al. 2005). Their goal is to enhance pedagogy and convert games into educational tools. These research trends could be said to crystallize around "game-based learning" and "serious gaming" (Van Staalduinen and de Freitas 2011).

However, for game designers making regular (i.e. non-serious) video games, studies going *from* education *toward* games are scarce. Indeed, only a handful of researchers have tried to transfer educational theories' principles into video games in order to improve the ludic experience. One reason for this deficit could be that game designers and game design researchers usually do not have backgrounds in education (Godin 2012). Some researchers (Becker 2008; Godin 2012) have analyzed games in order to develop pedagogical models aimed at game designers. However, their methodology did not directly involve game designers, while designers potentially have important and useful insights about this activity.

This paper thus aims to expand our understanding of learning in non-serious video games by examining game designers' practices.

Game designers craft tutorials for every game they make. It might be useful to see them as "teachers" of the video game world. In education, an important dimension for analyzing the practice of teachers is to reveal their educational philosophy (Ardalan 2008). Like teachers, game designers hold an underlying vision of knowledge that forms the basis of their "educational philosophy." This paper will attempt to question the vision of knowledge game designers hold when they craft a tutorial.

What is knowledge for these designers? What are the "thing" the player has to know? Is there only one vision of knowledge? And how does a definition of knowledge impact the way they transfer this knowledge? Here we do not speak about learning style or knowledge types, but about the philosophical dimension of knowledge, the implicit representation of that notion that each of us hold. Is knowledge like a precious item locked in a treasure chest we have to discover? Is it a skill that we demonstrate in front of adversity? These questions became significant for game designers upon the arrival of the casual game phenomena.

This paper is derived from research undertaken between 2010 and 2012, whose aim was to better define casual games by collaborating with eight video game designers from Quebec (Chiapello 2012; Chiapello 2013). This study furnished a large amount of data concerning the game design process, and learning was one of the most relevant subjects for the participants. After explaining what casual games are and why their design is particularly interesting regarding players' learning, this paper will introduce two different philosophical visions of knowledge: (1) the traditional one, and (2) the pragmatic one. These visions of knowledge will be used to analyze game designers assumptions concerning knowledge and how these assumptions impact the making of video game tutorials.

The Problem of Casual Games: The Player Knows Nothing

The term "casual game" is considered by many to be vague. What are the shared qualities of the card game *Klondike*, the puzzle game *Bejeweled* and the mimetic game *Wii Sport* (Trefry 2010)? While more detailed examinations of the definition of casual games and possible gameplay similarities can be found in a variety of studies (Kuittinen et al. 2007; Chiapello 2013), the concept of "the audience" was one of the first means used for distinguishing casual games from other kinds. The audience is not the best tool for making this distinction, and it has been criticized (Kuittinen et al. 2007). However, its influence in the field persists in spite of these criticisms. "Casual games" were indeed originally defined as "games for all" (Kuittinen et al., 2007), as opposed to "hardcore games" aimed at male teens who prefer particular activities (e.g. shooting or racing).

Casual games introduced new themes and new gameplay, which were more appealing to an audience of uninitiated players. The best-known vision of this advancement in gaming is perhaps the "revolution" that Jesper Juul presented in his book, *A Casual Revolution* (Juul 2009). From his standpoint, casual gaming is a new phenomenon. "The casual revolution

contains a new way for players and games to engage" (Juul 2009: 22). These ideas of "reinvention" and "revolution" come from the opposition between the term "casual" with the term "hardcore".

During the 80s and 90s, video games were primarily directed towards the "hardcore" audience. According to Juul, the stereotypical "hardcore" audience consists mostly of males who (1) like themes related to war and science fiction, (2) play a lot of games, and (3) are willing to invest significant amounts of time and money in video game activities. Their tastes have long dictated the content of the majority of the gaming landscape.

The casual game trend upset the hardcore audiences' habits by offering *less* demanding games in terms of time or money, which made gaming more accessible and attractive to a wider audience. Casual games, which appeared on a large scale in the early 2000s, seemingly ruptured the established model. This diffusion initiated Juul's so-called revolution and changes concerning gamer representation.

The Finnish researcher Annakaisa Kultima (2009) confirms the importance of new groups of players. She notes that video games have gradually integrated into every aspect of our lives and implicate the arrival of new heterogeneous groups of users. With these new players, the question of knowledge becomes especially important: how can we teach these new players to play video games?

With regard to hardcore gamers who play a large number of games, Gregory Trefry explains how their skill evolve progressively with each (relatively) new game inside a given genre. He uses the term "genre king" to explain how hardcore video games rely on a huge amount of previous knowledge:

> *Fallout 3 is what designer and writer Danc (of the insightful game design blog Lost Garden) would call a genre king (Cook, 2005). Fallout 3 stands at the end of a long line of games that use similar mechanics. Each new game release makes small adjustments and additions to that mechanic, adding new complexity to the gameplay. […] The change is not necessarily noticeable from one FPS to the next. But when you make the leap forward over 15 years of a genre and all the gradual changes made to a mechanic, the difference in difficulty becomes very apparent. Essentially, hardcore video games have kept barreling forward, towards a destination only the truly skilled and dedicated can reach (Trefry 2010: 10-11).*

Thus, for these hardcore players, the process of learning how to play was incremental and relatively seamless. However, for the new players that appear with casual games, the learning question is acute:

> *Worse yet, whole games rely on the player starting off with a deep-seated knowledge of genre conventions and mechanics. If you pick up a modern FPS role-playing game like Fallout 3, you are confronted with a complex world and inventory system with little to no explanation. If you have experience with shooters and role-playing games, you realize the game operates along fairly standard lines. But if you*

> *don't have that knowledge base, you might spend several hours just learning to look around, walk, aim and shoot (Trefry 2010: 10).*

So while the crafting of tutorials is not a subject specific to casual game design, it *does* take on new dimensions for casual game design. Indeed, the game designers participating in my study spend a fair amount of time explaining their strategy for teaching new players the basics of gameplay.

During the initial study, we conducted and analyzed a set of interviews with casual games designers with the goal of crafting of a definition for "casual games". This initial study focused only on aspects of the interviews related to learning. But for our current purposes, we have re-examined all of the interview data to address questions encountered by game designers when they craft tutorials. Our hypothesis is that the rise of casual games pushed designers out of their comfort zone, which provoked fruitful questioning about games, players, and learning.

Methodology: Asking the Ones Who Know

In order to gain insight about the way game designers make casual games, the study was designed to collect "professional knowledge" as defined by Donald Schön in *The Reflective Practitioner* (Schön 1983). According to Schön, there is knowledge hidden in practice. Professionals gain wisdom through practice, and they have knowledge that allows them to act in complex and unclear situations. In short, "Know-how" resides in professionals' actions.

We followed a qualitative approach inspired by phenomenology and collaborated with eight game designers in Quebec. The sample is intentionally non-probabilistic and was formed deductively from the literature. This is what Pires defines as a sample by homogenization. "[T]ake the most varied as possible informants in the group [here the casual games designers] to maximize the extensive study of the selected group" (Pires 1997: 71, our translation).

Each designer had participated in the production of at least one "casual game". We did not impose any definition of "casual game" and instead relied on the designers and their companies to designate their product(s) as casual games. The eight designers worked at five video game companies, which vary in size. Some had fewer than five employees, and one employs more than two thousand people. The games were intended for different platforms, including: Nintendo Wii, Nintendo DS, Microsoft Kinect, Facebook or Flash games and downloadable games for PC.

Data collection

The collaboration was articulated in three phases: a booklet, an interview and member checking of the results.

First, participants completed an educational booklet in PDF form. This is an application of "sensitization" (Visser et al. 2005). The aim is to sensitize participants to a subject in order to collect more solid information during the following interviews. Thus, practitioners were

presented with a few problematic aspects linked with the definition of casual games and asked to recall one specific casual game project in order to be ready to discuss it in more detail during the interview. Moreover, awareness of the situation encourages participants to take a step back and reflect on their practice. Completed booklets are not considered as data for analysis. They are stepping stones to initiate interviews, and make the research attractive and understandable to participants.

Second, we met with each participant. Each meeting took the form of a semi-structured interview. Designers were asked to build a "practice account" (Goodman et al. 2011). Such an account is a story that relates the events experienced during the development of a video game. Questions from the researchers help designers articulate these stories.

We asked participants to share their experiences in different project phases, from pre-production to post-production, without any imposed theme. Such interviews seemed to be a simple and effective way to access designers' knowledge. Indeed, human-computer interaction (HCI) research shows that practitioner interviews can be fruitful, if conducted in order to produce a narrative of practice: "In some respects, descriptions of authors' design processes through descriptive anecdotes, stories or slightly more formal case studies have together contributed the most to giving insights into design practice in HCI" (Goodman et al. 2011: 1066).

Finally, once a preliminary analysis of the interviews was done, we did a member check. We sent the results to each designer: they commented on these results and their insights were used to discard some misconceptions and add some depth to the interpretation.

Analysis

We first analyzed interviews to better understand the designers' vision of casual games (Chiapello 2012). We used Schön's model of the reflective practitioner with particular emphasis on his "constants" framework (Schön 1983: 270). Constants can be understood as the steady, fundamental principles of a profession. Examples include the practitioner's favorite *design solutions*, the *value system*, or the *overarching theories* used to guide practice (Schön 1983). Findings related with these constants helped us to construct an accurate portrayal of the practice of designing casual games. However, they were not conducive to a fuller analysis of making tutorials.

This first analysis yielded two findings. First, all the designers talked about learning. Tutorials were an important subject that emerged from our data. Second, while designing different techniques to teach the game was an important part of designers' activities, this was done *ad hoc*. In fact, designers lacked "*overarching theories*" (Schön 1983: 273). Schön gives the following description of an overarching theory:

> *An overarching theory does not give a rule that can be applied to predict or control a particular event, but it supplies language from which to construct particular*

descriptions and themes from which to develop particular interpretation (Schön 1983: 273).

An overarching theory for a practitioner seems similar to a "theoretical framework" for a scientific researcher. It is a frame that allows practitioners to "make sense of phenomena" (Schön 1983: 270) and interpret what is happening. Without any overarching theory, our participants had difficulties interpreting phenomena related to learning, and they progressed through trial and error. The lack of overarching theory might be a consequence of the participants' lack of formal education in pedagogy.

In this paper, we present a second, more fine-grained analysis of the experience of designing casual game as it relates to players' knowledge. We reexamined our original interviews using a different theoretical framework: Dewey's vision of knowledge. This new framework was chosen for its compatibility with Schön's work. Schön intentionally crafted his vision of professional knowledge using Dewey's philosophy as a basis (Schön 1992). It thus seemed relevant to go back to these pragmatic roots to find a knowledge related framework.

Theoretical framework: two visions of knowledge

Using the work of the pragmatist philosopher John Dewey (1910; 1933; 1938), it is possible to contrast two different understandings of knowledge: (1) traditional and (2) pragmatic.

The origin of the traditional understanding of knowledge, or "spectator vision of knowledge," can be traced back to Antiquity, where knowledge was considered as divine, constituted before man came into existence, and, thus, immutable (Dewey 2003 [1938]). Dewey elaborate on this subject in *Logic* (2003 [1938]).

In ancient cultures like the Assyrian, the Babylonian and the Egyptian ones, techniques were separated into "lower" and "higher" orders. Lower techniques were those of everyday practical work: carpentry, dyeing, pottery. The superior techniques were those concerned with what were considered to be the most important spheres. "Their knowledge and techniques were 'higher' because they were concerned with what were supposed to be matters of ultimate concern; the welfare of the people and especially its rulers—and this welfare involved transactions with the powers that ruled the universe."(Dewey 2003 [1938]: 79). These higher activities were different in content as well as in the social status of those who devoted themselves to it.

For Dewey, this initial separation is the origin of a schism: "This, when it was reflectively formulated, became the dualism of the empirical and rational, of theory and practice, and, in our own day, of common sense and science. "(Dewey 2003 [1938]: 79). The Greek political system managed to strengthen this schism by transforming the socio-cultural differences in a philosophical distinction. "Science and philosophy (which were still one) constituted the higher form of knowledge and activity. It alone was 'rational' and alone deserved the names of knowledge and of activity that was 'pure' because liberated from the constraints of practice" (Dewey 2003 [1938]: 79). Thus for Dewey, as great and diverse as the Greek philosophers were, part of their legacy is a dual vision, a schism "between practice and

theory, experience and reason" (Dewey 2003 [1938]: 80). Hildebrand uses the term "two tiered reality" (Hildebrand 2008) to insist on the separation of the world of human action and the one of knowledge.

Dewey also added that this vision of knowledge puts man in a "position of spectator":

> *The theory of knowing is modeled after what was supposed to take place in the act of vision. The object refracts light to the eye and is seen; it makes a difference to the eye and to the person having an optical apparatus, but none to the thing seen. The real object is the object so fixed in its regal aloofness that it is a king to any beholding mind that may gaze upon it. (Dewey 2003[1929]: 20)*

There is no interaction with knowledge, because it is pre-existing. The subject only discovers what is already there. Acquiring knowledge therefore means discovering the "truth". As Biesta and Burbules explain:

> *One implication of these assumptions is that true knowledge can only be acquired if the process of acquiring knowledge does not exert any influence on the object of knowledge (Dewey, 1929, 19). For this reason the process of the acquisition of knowledge was cut off from action and was understood terms of visual perception—a theory that Dewey called the "spectator theory of knowledge. (Biesta and Burbules 2003: 19).*

Dewey rejected this vision. According to him, knowledge is rooted in action, which led him to develop his theory of knowledge by experience, also referred to as the "theory of experimental learning" (Biesta and Burbules 2003: 37; Biesta 2010: 107).

Knowledge comes from reflecting on our experiences. We do not acquire 'fixed' knowledge or 'truth', but rather a predisposition towards action. Indeed, "this learning is, however, not the acquisition of information about how the world 'out there' really is. It is learning in the sense of the acquisition of a complex set of predispositions to act" (Biesta and Burbules 2003: 37). Knowing does not mean discovering the set of rules that explains the universe; it means being able to introduce changes to modify a situation in order to resume the habitual course of action. As Biesta and Burbules put it, it is a "shift from understanding knowledge as being concerned with the world 'as it is' to understanding knowledge as being concerned with conditions and consequences" (Biesta and Burbules 2003: 45).

Finally, while knowledge for Dewey is considered as a predisposition to act, it is not to be seen as a collection of 'action patterns' that one applies to different situations. When we learn more, we always transform ourselves *and* the world. Knowledge is therefore a continuous process of reconstruction:

> *[…] these standardized 'prepared' propositions are not final; though highly valuable means, they are still means for examining the existing situation and appraising what mode of action it demands. The question of their applicability in the new situation, their relevancy and weight with respect to it,*

> *may and often does lead to their being re-appraised and re-framed. (Dewey 2003 [1938] : 170).*

For Dewey, creating knowledge implies a transformation, a "transaction" between the individual and the situation he is in. As explained by Foucart (Foucart 2013), Dewey first described knowledge creation as an "interaction", but he later changed to describing it as a "transaction". Indeed, interaction means that there is a connection between different elements. "[T]hing is balanced against thing in causal interconnection" (Bentley and Dewey 1949: 132). But the different parts of the system can be isolated, removed from the system without being changed themselves. While an interactional vision of knowledge was already a revolution, Dewey wanted to go further with the concept of "transaction". A transactional vision implies that the entities are linked, and cannot exist without each other. The process is more important than the parts (Bentley and Dewey 1949). This vision of knowledge is fundamentally different from the spectator one: knowledge is constantly created through action, and the process transforms the individual and the world.

This theoretical detour gives us a moment to realize how unique various conceptions of knowledge can be—from knowledge as a detached world that humans can only discover to knowledge as created through human action and transforming the world.

Results: An Underlying Pragmatic Vision of Knowledge

In this section, we present interview extracts that focus on tutorials. We provide direct quotations along with comments to contextualize and unpack them. The interviews were originally conducted in French, but we present the English translations here.

One way to interpret the participants' experiences is to consider how they envision knowledge in their different approaches. Using the different visions of knowledge we have already discussed, it becomes possible to analyze the designers' position. Our interviewees universally rejected the spectatorial vision of knowledge and its two-tiered reality where knowledge is separated from action. They voiced a more pragmatic vision of knowledge—one where it is acquired through action.

Knowing the Terms

The participants described different types of tutorials without using a common vocabulary. Inspired by Paul Sauddaby's (2012) names from tutsplus.com, here is a list of the different forms of tutorials that our participants described:

- Booklets: All information about how to play is in a separate, printed booklet. There is no "in-game" tutorial. This type of tutorial is associated with the first video games ever invented.

- Tutorial by exposition: The tutorial by exposition is included in the game, but it teaches how to play *without* expecting any reaction from the player. "The tutorial by exposition is any tutorial which consists of telling or showing the player how something is done outside of actual gameplay. This includes, but is not limited to, the likes of text explanations prefacing gameplay and the traditional 'controls' screen." (Suddaby 2012).

- Tutorial room: Several designers discussed this form of tutorial and associated it with hardcore games. It is quite common. As the name indicates, there is a room (or a series of rooms) separated from the actual game, which serves as a safe space where learning can take place. This is an interactive tutorial. The player has to participate in order for the tutorial to proceed.

- Contextual tutorial: This is a form of tutorial that appears in game, at an opportune moment. For example, buttons appear to show how to perform an action like jumping just as a player needs to execute a jump. For Suddaby "The contextual lesson is basically a system where the one tutorial room is chopped into little pieces and inserted organically throughout the gameplay of a title." (Suddaby 2012). Like the tutorial room, the contextual tutorial is interactive, *but* it is not separate from the game. Our participant called these tutorials "in-game tutorials".

With these descriptions in mind, we will now present our participants perceptions of these tutorials as well as their reflections on how they function in design.

Learning is important

All of our participants raised the subject of learning. For example, as stated by participant 2, *"The tutorial is not something to be taken lightly"*. Following Trefry, participant 2 elaborated that, for new gamers, notions of how to play must be taught differently since they do not possess the experience of hardcore gamers:

> *participant 2: For me … it's like someone using Photoshop. Photoshop one, two, three, four, five, six, seven, eight, nine, ten. If you have started with the first and you've made it to ten, and you got through two, etc., then you understood. But if you jump directly into ten you do not understand. Using the magnifying glass did not become a habit. How to use the pen is not a habit. You are looking for everything in this unusual environment. So you have to teach them, those people […] who are not born with videogames. Therefore, you must re-educate them, so they seek these skills. So you have to start from the basics—I prefer to be more explicit than not enough, you know.*

When confronted with casual game design, designers pay significance attention to tutorials. Importantly, this was an emergent topic. We did not ask any of our designers to raise or elaborate on this subject.

The Rejection of the Room Tutorial

None of our participants considered making booklets (physical or digital) for their game. This could be interpreted as a rejection of the traditional spectatorial vision of knowledge, where knowledge is out there, fully formed, and independent of the player's experience.

Our participants frequently explained what they perceive to be the dominant vision of tutorials in video games. The dominant vision seems to capture how hardcore games teach something to their players. The room tutorial appears to be the most common way of teaching in hardcore games. It replaced the booklet and could be seen as a contemporary standard.

> *Participant 2: In the most hardcore games, there's this notion of tutorials. It was not here before! Before, you would sit, you would look at your booklet, then you would start playing.*

> *Participant 8: a lengthy tutorial which tells you what to do, it is definitely associated with hardcore games.*

However, participants offered low appraisals of room tutorials and described them as problematic on the grounds that they separate learning from playing.

A problem our participants expressed with separating learning from playing is that learning might not totally occur, which in their view means that players might not assimilate the "knowledge" presented in room tutorials. Participant 3 communicated this perspective by explaining that players might abandon the game when confronted with a room tutorial, because they might be afraid of forgetting the information during game play:

> *Participant 3: In a hardcore game, […], you can put all your tutorials at the beginning […] Maybe in a hardcore game the player will be more permissive with respect to that, because he thinks: "Ha! I have so much interesting gameplay coming, and I can come back later if needed". While in a more casual game, he will say, "Look, if I don't remember it, I will have to come back, it is not worth it, I am going to give up this game".*

This was also a problem for participant 2:

> *Participant 2: […] Rather than putting the tutorial at the beginning, and after that the player just needs it in level six and he does not remember it anymore! You want to have it when you need it.*

For participant 3, a room tutorial is a tedious part of any game. But hardcore players are willing to endure it because they see it as a promise of the deepness of the subsequent playtime. Although it holds promise for later gameplay, the room tutorial is not seen as a fun part of the game.

Moreover, room tutorials are separate from the game. Consequently, they are not evaluated": you cannot fail the tutorial, as it is only here for you to learn. It may seem like a good idea

not to punish players while they are learning. But our participants felt that separating the (useful but boring) knowledge part from the (fun but inaccessible without knowledge) game part undermines the player experience. Some of them, like participant 8, set out to make room tutorials but ended up changing their approach:

> *Participant 8: In the first game we had tutorials before playing. The first time you tried a new mode you had a tutorial, after it did not appear anymore. But it was booooring! It was boooooooring! Because in the end, when you do an exercise with a coach in real life then, well you're getting better, you're just going to do an exercise again and again with him and improve. But in the game it does not count, it is for nothing. Hence a tutorial, if it is not even evaluated, there was no point. So in the end it was just all cut.*

Note how this participant suggests that in "real life" learning is always rewarded, but that in a room tutorial learning is not interesting because it has no effect on the game state.

As Suddaby (2012) states, room tutorials are defined as interactive since they need player inputs to proceed. Suddaby also considers room tutorials to be "in-game" tutorials. But our participants did not agree with this perspective. For them, an in-game tutorial must be part of the game. Our participants insisted that a tutorial separated from the game, especially if the tutorial is an antecedent, standalone experience without evaluation, is not an in-game tutorial.

Our interpretation is that this perspective captures the two-tiered vision of reality where knowledge is something that exists apart from human action. All knowledge of the game is thus contained in the tutorial. Players have to assimilate it, and then they can apply it.

To summarize, our participants framed room tutorials as problematic because they separate learning from playing. This separation informs a perception of room tutorials as useless and boring. While tutorial rooms might be interpreted as related to a pragmatic vision of knowledge, our results suggest a different perspective. Our participants felt that knowledge and action were separated. They rejected this tutorial model in their design practice.

Reconnecting Learning with Playing

One problem encountered by some designers was that producers at their companies viewed any tutorial as too hardcore. Thus, it became difficult to introduce new and interesting gameplay since it was seen as undesirable to have to teach players:

> *Participant 4: People said "we will cut the feature" but I defended this feature and I explained, "Well, listen, it's normal that in our game we must explain how some things work". It was not really that hardcore and anyway, tutorial are the basis of video games, we need it, you have to learn or you do not know! But people answered again, "Yes, but that's hardcore, we must make a more casual game".*

Confronted with such an attitude, designers had to present tutorials in different ways:

> *Participant 2: You just want the player to learn, the mechanics are good, he just needs to learn them. So how and where do I do that as a game designer? I have to show him without an overload of useless information. He wants to learn here: this is where the "pop-up" should appear, this is where the clue should be given […].*

Designers communicated a desire to give players the opportunity to acquire essential skills at the right time. This way, they maintain control of the balance between challenges and skills. On one hand, they want to avoid situations where players are helpless in face of a challenge. On the other hand, it is useless for the players' skills to surpass the challenge. In general, the video game designers we interviewed seem to want learning to be part of playing. Participant 1 captures this perspective nicely. *"It's very important for us that there is zero time of learning before the pleasure [of playing] starts. You can have some learning, but the fun should start from the beginning."*

As a consequence, designers turned to "in-game tutorials", where the tutorials exist at opportune moments in the game. In the words of participant 6, "*During all the tutorials you have them playing. It is not: at the beginning we will explain and then they play*." Participant 8 affirmed this approach and underlined that playing and learning must be unified.

> *Participant 8: And it is perhaps a feature of a casual game. It's that the tutorial is integrated into the gameplay. But integrated in a way really perfect, because we will not say "take the tutorial, and then you're playing," No no no no! It's you play and you learn altogether.*

Participant 2 described the making of an in-game tutorial where information is displayed in-game, in the background:

> *Participant 2: I am in the process of making one, an in-game tutorial, and we are going to playtest it, it will be interesting. It will be on the screen in the game, much like* Braid*, or* Little Big Planet*, where you see some sign integrated in the background telling you what to do […].*

Participant 2 also discussed previous experience on an adaptation of a famous game where designers had to deal with new players and old-time fans at the same time:

> *Participant 2: In fact it was a way of re-thinking the game and the player experience in terms of progression. Because a player who buys a game, normally he is forced to go through the "adventure" mode, or through the tutorial, but for us the situation was different as we unlocked all the game modes from the start. So I had to rethink how to teach something to the player. I was thinking: "Yeah okay but, suddenly the player starts to play Challenge Mode … where is the tutorial? Where can I put it? So, you can put messages sometimes, write pop-ups: "You are one experienced player this is for you!" or "Warning…". It does not block the player, but this is just a warning. Perhaps we take into consideration that you are a newbie: "You are new to the game? Well, start with that mode."*

In fact, multiple participants highlighted the idea of intertwining learning and playing as one of the most important:

> *Participant 7: And I also think that the pleasure of playing is in learning, that's all the time you spend learning a new system, a new mechanism, I think that this is the best time in a game. When you're trying to understand, you know, how to master it. At the moment where I understand everything, well then I stop playing, you know, the game has nothing to offer anymore. I could play during the thirty levels remaining but if they are … if there's nothing else to learn well it's finished, I will move on to another game. […] Yes, well, I am convinced that what makes a game fun it really intimately linked to … to what we can learn within in. What triggers the pleasure is the fact that the brain is stimulated, at least in my case.*

Participant 8 also insisted on the importance of letting players figure things by themselves. In his view, designers have to explain how to play, not *how to win*, or they going to hinder learning:

> *Participant 8: We must give clues to players, on how they can improve, and not just assume that they will understand by themselves. […]. But never fall straight into their lap, I do not believe in that. […] It is as if you were playing* Fieldrunners *and in the middle of the game there is a tip saying, "Try to put your things there, like that, you know, it will be better": no no no no no no no! Error! In a game, the player has to discover the gameplay, the fact of saying, 'Wow, I did that well, I find myself good'!" is the game. It is when you find yourself good at something that you feel the accomplishment.*

This point of view can be aligned with a pragmatic approach to knowledge. It fits with what our previous observations about how knowledge is about experiencing the system—not describing it.

Our participants reaffirmed the importance of learning in games, which is something that may have gotten lost while designing hardcore games. Casual games reminded them that innovation in gameplay is important. But it must be taught to the player, which can be difficult. Our participants had to reconnect learning with playing—knowledge and action. To accomplish this, they chose contextual tutorials.

In contextual tutorials, players learn in the middle of action. In other words, players gain knowledge through their experience of the game. But more than that, their actions change the state of the game. Their actions have consequences. So both the player and the game are transformed. This fits with Dewey's vision of knowledge as a transaction—not just an interaction. Knowledge creation implies a transformation of both entities.

Reconnecting Gaming with Everyday Life

When exploring the idea of reconnecting playing with learning, our participants discussed different solutions, like in-game signs. They also realized that a great amount of what players learn in games is context-dependent. It can be difficult to relate what you know in video games with what you know in real life. Participant 8 explained that video game controls are often "specific" and "exotic" and thus difficult to learn:

Participant 8: I try to think of a kind of third-person action game with lots of fighting, or any kind of PC games with a lot of background story and you play a character, and then when you attack you need to do strange combos pressing, like: left, right, up, left, right, these combos at some point … and if not combos, the are games where even if you try hard, the specific control are so exotic that it is very difficult.

Indeed, many of our participants wanted to move in the opposite direction and connect gaming with everyday life. Participant 6 said, "*the games we love are games that are simple, which do not take time to understand, and where you can* embark *in fast*." Participant 7 also stated: *"[the player] comes, he plays and that's it … the* mise-en bouche *is fast.*" Rather than teach new skills to the player, it is possible to leverage skills they already possess thus speeding up the process of entering the game. Participant 4 used the term "*entry point*" for design solutions that allow the player to "*quickly enter the game*" using external skills. He first gave an example from the music game Rock Band:

Participant 4: Now Rock Band… Everybody knows the songs, all the songs in there … everyone has an entry point in the game. And then, and as soon as you have an entry point the game keeps you inside.

Finding an entry point allows the player to start the game with an already available set of skills. There are many games where the challenge is to press a button at the right time, but in the case of *Rock Band*, if the player knows the song, then they already to some extent have mastery over the rhythm and the lyrics. Thus the button pressing challenge is more so within reach. Another example using everyday skills can be found in the game *L.A. Noire*:

Participant 4: I have girl friends who saw the game, and it was: "Oh, that looks interesting, it looks cool." There is gameplay, such as the interrogation gameplay mechanics, which are based on recognizing if a person is lying or not. So there is something which is already a skill, which is not necessarily used in video games, which is more like deduction or interpersonal relationships. This is something that is not often found. So there is a different kind of gameplay … another kind of experience.

Finding good entry points can be quite difficult. However, we found that our participants used well-known symbols or stereotypes. Participant 2 even affirmed: "I would not have said that in college, but I'm using a lot of stereotypes … for example, if you want something French, represent it with a French baguette! I know it's kitsch, it's *a cliché*, but stereotypes are powerful." Sometimes they used references to common activities or famous movies or songs. Participants tried to connect everyday knowledge with video game knowledge, thus erasing the boundary between gaming and other activities.

The idea of reconnecting gaming knowledge and everyday activities is not new. And it is a highly valued aspect of games like *Wii Sport* or *Wario Ware*. What our theoretical framework adds to this idea is a reflection on our tendency to see knowledge as overly specific.

Knowledge is traditionally kept out of the world of action. But it is also compartmentalized as if every piece of knowledge was related only to one activity. With a more pragmatic vision of knowledge, every time we act, we actualize and transform our knowledge, in a constant

reconstruction. Thus it can be transferred though activities, so learning something in our everyday life can have an impact on playing video games and vice versa.

While this has been at the heart of many studies about game-based learning, it is interesting to see that casual games provided an opportunity for game designers to reaffirm that everyday life knowledge has an impact on games. It is the consequence of a vision of knowledge embedded in action. The knowledge we already have is not kept in a box. We are always using it and reconstructing it—adapting it to new situations.

To summarize our results, our participants tended to embrace a pragmatist vision of knowledge. They established that the most common way of teaching gameplay is by using room tutorials. However they dismissed room tutorials for casual games since room tutorials separate learning from playing resulting in an incomplete experience where tutorials become boring or useless. Instead, they advocated contextual in-game tutorials, where learning and playing occur at the same time, in action. They also found ways of increasing and easing learning in video games by leveraging external skills from everyday life. They connected gaming knowledge with knowledge in general. All in all, a pragmatist approach to tutorials has been a fruitful one for the casual game designers who participated, and the casual game era appears as one of reflection and change.

Discussion

A philosophical understanding of knowledge may help create better video game tutorials. Our analysis shows that some video game designers do not solve their tutorial problems by looking at other games for ready-made solutions. Nor do they follow random advice or direction found on the Internet. Instead, they reflect on learning and teaching and the place of knowledge in the player's experience.

Informed by Dewey's philosophical works, we argue that our participants reject the spectatorial vision of knowledge and embrace a more pragmatic one in order to facilitate learning in casual games. We found that designers rejected "room tutorials" on the grounds that they separate learning from playing. Room tutorials, as the first form of interactive tutorials, are supposed to unite playing and learning; players learn by interacting with the game system. But our participants observed that good learning does not occur because players do something but because *they transform themselves and the game*.

Players transform themselves as they integrate new capacities for action, and they transform the game through the consequences of their actions. Thus a room tutorial is inadequate. The distinction made by Dewey between "interaction" and "transaction" is relevant here. Video game tutorials must be interactive *and* transactional.

On a broader level, our work demonstrates that game designers need overarching theories that guide practice. Indeed, the tutorial-making process described by our participants was complex and challenging, with lots of trial and error and conflict with team members.

As researchers, interpreting designers' efforts through a theoretical framework allowed us to make sense of their explanations of creating better tutorials for casual games. Our analysis would have been even more useful if it had taken place during the design of the game. Thus we believe it would be valuable for designers to have overarching theories for analyzing practice while engaged in it.

An overarching theory gives the practitioner a global vision of its action on a project. As Schön explained, "the practitioner does not consider that he has formed a satisfactory account of a phenomenon in any practice situation until he has framed it in terms of his overarching theory" (Schön 1983: 273-274). Overarching theory enables designers to justify their action more easily.

Of course, our participants reached similar conclusions to those of the pragmatist philosophers without knowing about their philosophical leanings. But if they had known, (1) they may have been able to convince their teams with stronger arguments, and (2) the overall process of tutorial creation could have been smoother. Thus we believe that philosophy could be a valuable tool for video game designers working on tutorials.

To understand learning, one does not need an overarching theory from education. Overarching theories can come from many different domains. Philosophical ones have the advantage of covering lots of relevant subjects. Main philosophical currents often deal with general questions about truth, knowledge and human conduct, all of which can be of great interest for video game design. Teaching philosophy in video game design programs thus might be a promising means to equip aspiring game designers with useful tools to justify their design choices.

Conclusion

Finding academic resources concerning the making of video game tutorials can be difficult. With this paper, we hope to contribute to the global effort at better understanding game design practice—especially as it pertains to teaching gameplay to the players. Our study is also one of a handful that directly engages with game designers and attempts to document their practices. Through a careful analysis of their discourse, we believe that some of the designers' conceptions of knowledge were revealed.

Using a theoretical framework based on Dewey's vision of knowledge, we showed that our participants favored a pragmatic vision of knowledge over a spectatorial one. With the arrival of casual games, the question of tutorial design assumed a great deal of importance. While most of hardcore game tutorials were interactive room tutorials, the participants in our study rejected this kind of tutorial on the grounds that it separates learning from playing. They advocated an approach where the player learns through playing, which we argue is a transactional perspective where both the game and the player state are transformed. This understanding of knowledge and knowledge acquisition processes creates new ways of envisioning players' learning processes, which can be of use for creating casual games as well as hardcore games tutorials.

It is possible for researchers to find theoretical frameworks that shed light game design practice. But these frameworks should not remain the exclusive domain of researchers. They ought to be "transmitted" to practitioners to facilitate the analysis and modification of practice in action, as recommended by Schön (1987). While some of these frameworks may seem abstract and inaccessible, we believe practitioners will want to embrace them since they can be very useful tools for understanding concrete practices.

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Games

BRAID. Number none, Xbox 360, 2008
BEJEWELED. PopCap Games, various platforms, 2001.
FIELDRUNNERS. Subatomic studio, Apple iPhone, 2008.
KLONDIKE. Microsoft, PC, 1990.
L.A. NOIRE. Rockstar Game, various platforms, 2011.
LITTLE BIG PLANET. Media Molecule, PlayStation3, 2008.
ROCK BAND. Harmonix/MTV Games, various platforms, 2007.
WII SPORTS. Nintendo EAD, Nintendo Wii, 2006.
WARIOWARE: SMOOTH MOVES. Nintendo, Nintendo Wii, 2006.

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