

# Chapter 1

## Once Upon a Game:

### Rediscovering the Roots of Games in Education

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#### Abstract

In view of the recent interest in using videogames for learning, many teachers and parents have begun to question the place of videogames in the classrooms. In this chapter, we attempt to explore the very idea of playing and learning by trying to rediscover the hidden meanings in usual words, like “game,” “play,” “school” and “education” through a lexical and conceptual analysis within the Western culture, roaming among ancient and modern languages. It is through the rediscovery of our roots that we as educators can be better informed to either embrace or discard the call to integrate play into education for game-based instruction.

#### 1.1 Introduction

*“Let my playing be my learning, and my learning be my playing.”*

- Johan Huizinga

While it took several millennia for games to evolve from being played in a sand-box to a virtual video world; it has taken only a couple of decades for video games to progress from mere moving dot and lines (e.g. *Pong*) to 3-Dimensional graphical avatars playable on the Internet (e.g. *World of Warcraft*). At one time, particularly in the 1970s, the term *video games* meant “games played in a video arcade.” However, in today’s context (and for this chapter), the term is used broadly to include all digital games playable on a device with video screen, which would include computers, game consoles, cellular phones and mobile devices.

In some sectors, including education, business, military, healthcare, and government (Michael & Chen, 2006), the term *serious games* was used to distinguish videogames that are created for training and instruction from those developed for entertainment purposes. Although the concept for serious games (and for that matter, the use of games in classrooms) is not new, what’s new is the *media* of video

games. As researchers and educators began to delve more into videogames and the complex learning dynamics that take place during game play, it is important for the educational community to clarify what game means in order to facilitate clear dialog with other learning domains and the videogame industry.

### ***1.1.1 Play is Not the Opposite of Work***

Even though teachers are no strangers to using games (e.g. board games, card games, and role-playing games) in the classrooms, the primary reason for using them has always been for learning and not for entertainment. When used within a classroom setting, games functioned as a teaching aide in helping to explain or reinforce a learning concept. Sometimes a complex scenario not easily understood through reading alone may be acted out through games (Van Ments, 1999). Therefore, there appeared to be a mismatch: while games were mostly played for the element of *fun* (Koster, 2005), teachers seldom use games for this reason.

Perhaps the reason was today's performance-based curriculum, or it could have been the post-industrialized society. Somehow, somewhere, a viewpoint was born: going to school becomes the *job* of the youth, for their preparation to enter the world of the adults. Consequently, one tends to say that going to school is productive, while playing is not, as this corresponds to the fact that salary is paid based on how much time a person spent in working, not in playing. Hence, it is no surprise that the education system would inherit the same belief to uphold *work* and put down *play*.

While the parallel between school and work is true in the sense that "school is a duty as a job is," it can lead to a misunderstanding when it comes to the nature of what teaching and learning are. Rieber (1996) points out that the opposite of *work* is *leisure*, not *play*. Yet, because *play* could detract one from *work*, it is often regarded as the opposite of *work*. As such, (game) *play* has been relegated to personal time outside of work, and must not come to interfere with real *work*, such as classroom teaching and learning. This belief is also evidenced in the so-called *extra-curricular* (or extramural) activities of schools that are comprised mainly of *play* such as band, chess, dance, and sports.

When computer technology was first introduced into the classrooms some reactions were purely technophobic (Rosen & Weil, 1995). As feedback from our graduate students (*digital native*<sup>1</sup> in-service teachers) revealed, some teachers may be reacting to the new technology in a *ludophobic* manner. They chided the digital-native teachers, who let students play video games in class, as "not doing *real work* during class time." These non-native teachers were also worried that their

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<sup>1</sup> Digital Natives: so named because they are "native speakers" of the digital language of computers, video games and the Internet — loosely, those born after the 1980s.

own students may begin demanding video games due to the precedent set by other digital-native teachers.

The view that “*schools* have more to do with *playing* than *working*” is simply at odds to traditional thinking. But what is *traditional thinking*? According to Beck and Wade (2004), older non-gamers (aged 32 and above) have problems accepting that videogame playing can be “purposeful and serious.” This is contrary to the next generation who grew up with ubiquitous access to digital media, they simply accept that “*play is work*” (Prensky, 2000). As they come of age, traditional thinking may well become one that embraces play as work, and work as play.

If videogames are to become useful for learning, it is imperative for educators to understand *what videogames are*. If they do not, they will either feel threatened by the new technology, or commit enthusiastically to it without any sound reason. This is actually the topic of this chapter. Also, educators will need to carefully consider the merits and potentials of videogames for serious learning, and, lastly, identify suitable games from thousands of available titles for use in the classroom.

But first of all, are we talking about videogames, or games? If we follow the thinking path long enough, we will no doubt arrived at the same conclusion as Smuts (2006), “In order to define *video game*, one must confront the problem of defining *game* itself.” The issue of using videogame in classroom learning is intertwined with that of using games in the classroom; for the two problems are, in fact, one.

### 1.1.2 “*What, Then, is Game?*”

Educators are not the only one who is perplexed by the lack of a well-defined term. Film writer and game designer, Lee Sheldon (2004), wrote:

“One problem we come across when attempting to discuss games is our lack of a common vocabulary. We’ve borrowed terms from other media and then changed their definitions... [and] made up our own words.” (p. xiii)

Because of our different world view on games, and because educators are beginning to warm up to videogames as a legitimate field of study (Hill, 2005); it is essential for a shared perspective and understanding to be established between educators and professionals from other disciplines in order to facilitate clear dialogues. We need to develop a more specific definition of what it is to be a video game. There have been very few attempts to define video game, and none of them have been successful. It is perhaps more vital for researchers in the education arena to first have a common agreement of *what games are* before trying to render support to other educators in integrating videogames into classroom practices.

Outside the classroom, playing is one of the fundamental human activities, one of the first that human children develop together with talking, toddling, and relating to others. The experience of playing belongs to the fundamental palette of hu-

man experience (Gadamer, 1965), and it is probably as old as human beings are – or even as intelligent life is.

On the other hand, playing has a special feature with respect to other basic human activities, such as eating or sleeping: when we eat or sleep, we eat or sleep. When we play, we can (pretend to) eat or sleep, and eating and sleeping become parts of a playful dimension. Children can decide to play in every situation and with any object, which becomes a toy. For example, when children “play house,” they are pretending (playing) to perform daily chores such as cooking and cleaning. When little girls play “mommy”, they are imitating (playing) what mothers do to their babies.

Thus, playing is not something that we do distinctly apart from daily life. It is a modality of doing things, a *mode* of human experience, a sort of envelope of what we do that give a specific different hue to the activities that we perform. This mode of experience is natural to children, while it is more difficult to adults (Gadamer, 1965).

What is a game then? The answer cannot come in a few lines, and the whole chapter is a partial effort to provide some initial insight. Yet from this perspective a game is a structured set of rules that create a space (the magic circle described by Salen & Zimmerman, 2004) in which the playing mode of experience is possible to adults. Game-playing is then a specific activity such as eating and sleeping, and in this sense it is possible to distinguish *playing*, as a natural mode of experience, from *game* and *gameplay*, a culture-based activity.

St. Augustine of Hippo noted that while people have no doubt about what *time* is in their everyday life, its definition eludes them: when asked to provide one, the concept seems to get blurred. This is true of all the most familiar experiences of human life, like *love*, *friendship*, etc. Defining the concept of *game* can be equally elusive. We all probably have a quite clear idea of what a game is based on our experience of playing games, maybe as kids, and have a number of good examples. But how would we define it? The work of Salen and Zimmerman (2003) collects 15 different definitions from the literature, and testifies that there is no easy clear-cut and agreed-upon solution.

One good way to get a new insight into a familiar experience is to reflect on the words that we use to describe that experience. Languages in fact preserve a dense stratification of meaning that we easily overlook or even forget in everyday speech. Readers should be warned that working with concepts and languages is tricky, because they embody the very structure of a culture, and are consequently strongly culture-dependent. For this reason we decided to limit the scope of the analysis to (a part of) Western cultures, in the awareness that while additional analysis outside the Western *Weltanschauung* (literally, *view of the world*) would provide additional extremely interesting elements, this is a sensible starting point for the issues at stake. It is through the rediscovery of our roots that we as educators can get a better understanding to actually improve our educational practices.

### 1.1.3 Chapter Structure

We would like to propose a challenging thought: What if schools were originally made for the purpose of game and play? In order to support our claim, we will explore the concept for *playing* and *games* using a lexical and conceptual analysis of common words used in everyday lives, such as “game,” “play,” “school” and “education,” to rediscover any hidden meanings in their roots. These words describe basic human experiences, and bring multiple layers of meaning that can provide unexpected insights in the nature of education and playing and in the connection among them.

Since *game* is a human activity and not a specific subject matter (Bittanti, 2004), the nature of this inquiry is decidedly interdisciplinary.

Readers should note that we have deliberately ignored the literature on game studies and game design research for this study, in favor of a strict conceptual and lexical analysis.

## 1.2 Games as an Educational Technology

Even if only recently it has become a hot topic, games have always been parts of teachers’ array of teaching techniques. Education is often the first benchmark for exploring the potential of new technologies (Cantoni & di Blas, 2006) and video games can be considered as a type of educational technology. In the following section, we will examine the views of educators and scholars in the field of educational and instructional technologies on games and game playing.

Having consulted a number of standard instructional technology texts and reference books at both the graduate and undergraduate levels (Alessi & Trollip, 2001; Anglin, 1995; Heinich, Molenda, Russell, & Smaldino, 1999; Jonassen, 1996, 2004; Lever-Duffy, McDonald, & Mizell, 2003; Maddux, Johnson, & Willis, 1992; Smith & Ragan, 1999), we found that very few of them considered *game* to be an instructional resource, technique, or tool. In the rare instances where game was mentioned, it was regarded as a motivational activity to supplementary learning in the classroom. The readers (mostly pre-service teachers) were cautioned against using game for *play* in the classrooms. For example, Heinich and colleagues (1999) referred to games as “activities” in which “participants follow prescribed rules that differ from those of real life as they strive to attain a challenging goal.” Gredler (1996, 2004) defined games as “competitive exercises” in which “the objective is to win and players must apply subject matter or other relevant knowledge in an effort to advance in the exercise and win.” While Alessi and Trollip (2001) not only placed games under a chapter entitled “Drills” but further suggested “embedding a drill into a game activity.”

Firstly, it seemed unlikely for word such as “activities” and “competitive exercises”, if found printed on box-covers of video games, to generate any interest from gamers – or from young students. Secondly, with respect to the latest developments of the research on games such definitions sound nowadays rather simplistic. Thirdly, people enjoyed playing games because games are fun, and this is what makes them learn. If educators view games merely as *activities* and *competitive exercises*, they will use them (or design them) as such, hence, jeopardizing the real potential of games.

Based on the *ad hoc* textbook survey, it would seem that *games* were either ignored (or omitted) by educators, or were (mis-)presented as competing factors to classroom learning. In short, the usefulness and potentials of games were downplayed. However, before we criticize these authors for not seeing *games* for what they are worth, is it possible that such unexciting definitions were merely a ploy to pass-off games as *acceptable* learning exercises in yesterday’s “anti-play” classrooms? One must not forget that, at one time, *games* were not an acceptable form of learning in schools, at all (Rieber, Smith, & Noah, 1998). So perhaps, some of these forward thinking educators were actually trying to cast *game playing* as exercises so that it may slip by the “game police!”

Whatever the reasons, it sufficed to note that there is an urgent need to update these textbooks both to correct the perspectives of teachers on the potentials of video games for learning and to line up with the digital natives’ understanding of games. Even as educators search for a solid ground upon which to build good practices for using games in learning, school teachers need to recalibrate their belief systems to accept learning and fun can coexist in the media of video games. Not only is *play* not an extra-curricular activity, it ought to be encouraged during class time to facilitate experiential learning. In fact, as we will show in later sections, *school* was created originally for the purpose of *play* — at least according to the Ancient Greek language, as we will discuss below.

### ***1.2.1 Games and Playing: Theoretical Frameworks***

The second step extends the perspective developed in the first by exploring the meaning of *game* in disciplines other than education. The review presented here is forcedly a non-exhaustive overview, with illustrative purpose. It is possible to divide the exploration in two approaches.

1. *Formal approach*. Some disciplines used the idea of games as a metaphor to describe formally some complex structures proper of their field. The examples reported here come from Economics and Argumentation Theory.
2. *Substantial approach*. Other disciplines tried to investigate the nature of playing and games, and of ludic experience in general. The examples reported here come from Semiotics and Philosophy.

## 1.2.2 Formal approach: What does a game look like?

### 1.2.2.1 Game Theory

In about the same period when Wittgenstein (1961) was developing his theory of *Sprachspiele* (literally, *language games*), Nicholas Von Neumann gave birth to game theory (Von Neumann & Morgenstern, 1953), a crossover field between computer science and economics. The game theory, which is a theory of interaction that models complex social interactions (among which also some games which are often used as examples), was later expanded and formalized by John Nash<sup>2</sup> (1951), who won a Nobel Prize in 1994. Games are subdivided as collaborative and competitive games, in which *players* behave as *agents* who follow rules (of the game) and move in turns, in search of some expected *payoff* (reward) for their efforts. Game theory is commonly applied in the representation of conflicts or market dynamics.

Within game theory, the structural elements of a game exist as rules, turns, collaboration and competition, where winning, or fun, is modeled as numerical payoff. Game theory tries to explain *how playing (a game) works*, and defines games as an interactive process striving toward a payoff. Because game theory provides a phenomenical description of a game (i.e., what happens during the game?) without investigating the meaning of the game (i.e., why do we play?), we will label its approach as *functional* approach.

### 1.2.2.2 Dialogue Macrogame Theory

A similar vision can be found in a branch of linguistics and argumentation theory. Argumentation and dialogue are forms of logical discourse that take place between two or more parties, based on specific logical reasoning and premises. Mann (2002) developed the dialogue macrogame theory (DMT; successor to the dialogue game theory), a model to represent and analyze real verbal dialogic interactions. A dialogue is described as a joint activity of two or more partners that share a goal, and each utterance in the dialogue is analyzed as a *turn*, or *move* within the macrogame. Conventions, courtesy, and the production of meaning are the rules that each game should follow, and breaking then generates a conflict or nonsense.

During the interaction a partner can bid a game, for example *information seeking* (by asking a question), that the others can accept (answering the question, or

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<sup>2</sup> A visual example of Russell Crowe as John Nash explaining non-cooperative games can be seen in the “bar application” of game theory in the movie *A Beautiful Mind* (Howard, 2001, 0h18'50"-0h20'50").

asking for classification) and conclude (providing the required information) or refuse (e.g., by changing subject). Each verbal exchange in the dialogue is therefore interpreted as a move of a game within the dialogue itself, which becomes a sequence of games, which in their turn can include other games. Walton (1984) developed a taxonomy of dialogue games according to the kind of shared goal. For example, a mediation game has the goal of settling a conflict in a way that can be accepted to both parties. In this situation the mediator covers a specific role, which includes the possibility to threaten as a particular move in the game; this is not allowed to the conflicting parties, otherwise the whole mediation would fail. Also, threatening is never allowed in a scientific communication game, whose goal is the generation of new knowledge.

Both game theory and the dialogue macrogame theory exploit the formal structure of games in order to define metaphorically useful concepts for modeling complex interactions: rule systems, turns, roles, allowed moves, goals.

### **IMPLICATION #1: Games are Interactions**

In this functional approach, *playing* is an interaction among players. In this respect, a person who is playing with a videogame (standalone) is a limit case in which the game system (the computer partner) is so advanced that it is able to sustain continual interactions with the human player. While the dimension of the videogame playing phenomenon makes it deserve the attention of the research community, it is probably not the best starting point for a game-based, learning investigation. Some notable exceptions include (a) multiplayer videogames (c.f. Heliö, 2004), (b) online games played with human partner(s), and (c) single-player games that provide support for intense social interaction (Gee, 2003).

### ***1.2.3 Substantial Approach: What is a Game?***

Some disciplines have wondered about the nature and experience of playing, by questioning its real essence: What is a game? What is playing? We call this a *substantial* approach, which is indeed very different from the *functional* approach presented above. To our purposes, two interesting contributions come from Semiotics and Philosophy. We will navigate through these vast disciplines through the works of selected authors, including Huizinga, Gee and Callois for semiotics, Heraclitus, St. Thomas Aquinas and Schiller for philosophy.

#### **1.2.3.1 Semiotics**

The reference point for Semiotics is undoubtedly *Homo Ludens* (Huizinga, 1980). Huizinga describes playing as an experience characterized by several features:



1. First and foremost, a game is a voluntary activity. If the game is not voluntary, then the player will find himself in Michael Douglas' situation in the movie called *The Game* (Fincher, 1997): an apparently meaningless sequence of threatening events.
2. A game exists only within the boundary of defined time and space — when these boundaries are violated, one exits the *game* and enters a nightmare much like that depicted in the movie, *Jumanji* (Johnston, 1995). The delimitations in time and space define a sort of separation ordered by special rules that create an environment different from ordinary life. Huizinga described this situation as a magic circle between reality and the game's fictional world.
3. A game always has an end in itself. A person could play the game for playing's sake, or for fun; but not for something else (a special case being: gambling, which will be discussed later).
4. Once a person begins playing a game, he must commit to playing it to its end, and flow along with the tensions within the game to finally resolve in joy (fun).

Again, the important element here is the concept of *magic circle*: a game must have clear boundaries, both in space and in time. Sports mark their space with lines on the field, children with free spots or by labeling, "this is the office". This leads to the second implication.

### **IMPLICATION #2: Games are Delimited**

Introducing a game in the classroom means creating a sort of *free zone* in which only the game exists, without any influence of extrinsic elements such as evaluation, grades, mandatory work, or other. Playing requires conditions, and this is probably the most challenging issue in the use of games in formal education.

The second key element emphasized by Huizinga is freedom: no one can be compelled to play – or this will not be playing any more, at most just following the rules of a game. This will be the topic mostly analyzed by Philosophy in the following paragraphs, and lead to our third implication.

### **IMPLICATION #3: Play is Voluntary**

Each player must deliberately choose to play, and take it seriously. Considering that being obliged to play is not playing, using games in the classroom can be difficult. Also, in adult learning, taking a game seriously can sound like a joke and even have a counter-effect.

Following the same line, Gee (2003) defined games as a semiotic environment, i.e., not simply an activity, but a structured system of signs, a culture or a world, in which the players develop specific perceptual, understanding and action abilities. A semiotic environment is a working space for reflection on cultural models, val-

ues, and identities<sup>3</sup>. For example, playing cards is also learning to become a player, and a certain kind of player (trustworthy, sneaker, sympathetic, etc.). At the same time this requires observing oneself developing a new identity.

So ‘playing’ involves taking a risk, even a risk that concerns one’s identity. Players should be aware and ready for that, or they will not play. This requires trust in who proposes a game, maybe the teacher, and at the same time emphasizes a clear distinction between *instruction* as teaching and learning skills and *education*, where identity and personal growth is at stake.

Also, Gee (2003) believes that (video)games can promote social interaction within (e.g. by joining an online multiplayer game) as well as outside the game world (by joining a game social group). Therefore, games are experiences that foster active and reflective learning by: (a) enhancing the development of the ability to read one’s own experience, (b) joining affinity groups, and (c) problem solving in a critical and reflective way.

#### **IMPLICATION #4: Games Play With Identity**

Once players enter the “magic circle” of a game, they must respect its rules. Playing along with other players means accepting the game world’s reality and negotiating one’s identities within the game world as if it is real. Players should be ready for this “reality/identity change.” While this type of negotiation may come naturally for children (it’s just another make-belief), it can be difficult for adult education.

A final contribution from Semiotics, which is paramount both to educators and game designers, comes from Callois (2001, 1981), which identified four types of games. Actually, these can be seen as four dimensions of playing (or generations of fun), which are represented in different degrees in actual games.

1. *Agon* is the game of competition, such as sports;
2. *Alea* is the game based on chance and risk-taking, such as in gambling;
3. *Mimicry* is the game of make-believe, such as adventure games, or childish make-believe games.
4. *Ilinx* is breath-taking games, in which the challenge to the senses and the overcoming of fear generates pleasure, such as in bungee jumping.

Each game develops from a sort of texture of these elements, which leads to develop the pleasure in games. For example, a pleasant afternoon can be spent rafting a mountain river and challenging one’s fear (*ilinx*) and at the same time taking the role of “ship’s admiral” (*mimicry*) and racing with other teams (*agon*). This brings us to the fifth implication.

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<sup>3</sup> See Chapter 3, Video Games, Learning, and Content.

### **IMPLICATION #5: Games Are Not All Alike**

Callois' dimensions indicated that there are different dynamics at work in each game. It is sensible to expect that each dimension bear different effects to learning, e.g., different types of learning facts, skills, etc. Also, different players may or even prefer to play the same game differently, which can be problematic when introducing new games to a class. Also, and again this is a methodological hint, videogames do not cover the full array of game types. And finally, different people will have fun with different games – another challenge for educators which have to deal with diverse populations of students.

#### **1.2.3.2 Philosophy**

Philosophy is probably the field of study in which games have found the largest space as a topic. Games and playing were first mentioned in Heraclitus' fragments, the earliest documents of ancient Greek philosophy. God was portrayed as a child playing with the human fate, "The Geschick of being, a child that plays, shifting the pawns: the royalty of a child" (Heraclitus' Fr. 52, c.f. Kahn, 1981).

Aristotle (about 350 B.C.) in his *Nicomachean Ethics* considered playing as a necessary activity for re-establishing balance in the tired soul. St. Thomas Aquinas goes further and observes that players play for playing sake, i.e., for fun and for nothing else (Melchiorre, 2006). This is also referred to as an *autotelic* activity: an activity that is self-aimed and has no external end or purpose – indeed, a feature mentioned by Huizinga in *Homo Ludens*. Under this respect playing is comparable to art and spiritual contemplation: art is the creation of formal beauty for no other goal than enjoying beauty itself, and spiritual contemplation is the search of the vision of God for no other end than the joy seeing God. From the Medieval perspective, and in opposition to our modern contraposition of work and play, the autotelic nature of playing elevated it to the level of poetry and praying. This is indeed what playing and learning (not being taught) have in common: they are an activity performed for itself: for fun, and for becoming a better person.

During the Romantic period in 18<sup>th</sup> century, Schiller (1775, 2004) extended this claim stating that human beings play only when they are human in the purest sense, and they are purely human only when playing. Thus, *playing* becomes the only time when we can disregard what we *must* do, to focus on what we *desired* to do. In this sense the experience of playing is close to that of art, which for the Romantic Movement was the main thrust in exploring the mystery and meaning of human life.

So what is the meaning beneath Heraclitus' verses that describe God playing with the human fate? On the one hand, this indicates that because God is free from any responsibility to other beings: He can do what he pleases with the fate of the world – this is our feeling of cruelty for a God that "plays" with us. More deeply, God moves the world for no other end or reason except for the pleasure He has in

doing so. This is indeed a form of free love, which resembles that between parent and child.

Altogether, Philosophy indicates that playing is not a free-time diversion, but a very important human activity. This brings us to the sixth implication.

**IMPLICATION #6: Play is not Recreation but Re-Creation**

Play is not only a humble diversion from everyday's life, but a deeply human activity close to music, figurative art, and meditation. It requires free choice and the rational acceptance of rules, which include its being limited to specific moments in time. As such, it has the ability to re-create (i.e., restore) a person's soul.

**1.2.4 Summary: Theoretical Frameworks**

While the small sampling of topics described above is hardly representative of the contributions that each discipline has on games and playing, and still less of what other disciplines have to say about it, we hope it allows educators, researchers, and game designers to draw appropriate implications from them. In addition, it has allowed us to identify how the disciplines approach the topics of *games* and *play*.

The functional approach to games and playing allows researchers and game designers to better understand how *playing* works, and the implications are to designing better and more effective (serious) games. The substantial approach, on the other hand, examines the very essence of *playing*. By investigating the conditions needed and the true meaning behind game playing, educators can obtain new insights on how to integrate games into an educational environment.

**1.3 Game and Play: What the Words Say**

This section investigates *games* and *play* by exploring the layers of meaning that compose the two words used in five modern Western languages, namely English, Spanish, Italian, German and French, and their Latin roots. Table 1.1 shows the main verbs and nouns in the six languages.

**Table 1.1** Lexical Analysis of “Play” (verb) and “Games” (noun) in Western Languages

-	English	German	French	Italian	Spanish	Latin
Play (verb)	Joke/Mock /Tease	Witzen		Scherzare	Bromear	Iocari
			Jouer	Giocare	Jugar	Ludere
	Play	Spielen		Suonare	Tocar	Sonari
				Recitare	Representar	[Ludere]
Game (noun)	Joke	Witz	Plaisanterie	Scherzo	Broma	Iocus
	Game		Jeu	Gioco	Juego	Iocus
	Play	Spiel	Pièce	Recitare	Representación	Ludus
	Toy	Spielzeug	Jouet	Giocattolo	Juguetes	Crepundia /Tricia/Lusus

### 1.3.1. *Play, Play, and Play*

The English verb *play* and the corresponding German *spielen* describe the activity of playing at large, which includes three activities that are distinct in Spanish, Italian and Latin, namely:

1. Playing a game (giocare, jugar, iocari);
2. Playing music or a musical instrument (suonare, tocar, sonari);
3. Playing a theater performance (recitare, representar, ludere).

Strangely, even though French is also a Latin language (like Italian and Spanish), the usage of the word *jouer* is similar to the English *play* – this could be due to the historical influence occurred between the two countries. The English word *play* thus comprises a number of artistic – or, as mentioned above, autotelic – activities, emphasizing the deep connection between playing and the arts. Readers should take note that the semantic association between playing and the arts only applies to performing arts (music and theatre) but *not* figurative arts – a point to be explained later by the examination of the lexical root for *play* and *spielen*. By now it is important to point out that different languages and cultures mark different borderlines among these concepts. The connection between games and performing arts, which is intuitive for English and German native speakers, should not be taken for granted at large.

### 1.3.1.1 Iocus and Ludus

Latin uses two main words for *playing* and *games*, which survives till today in modern Latin languages: *iocari/iocus* and *ludere/ludus* (Usener, 1979). From these words stem (almost) all related verbs in French, Spanish and Italian<sup>4</sup>.

The Latin *iocari* means “saying something to induce laughter,” e.g., making fun with words like in a pun or a joke. The word probably originates from the Indo-European root *jehan*, which means “to say, pronounce,” from which also come the English *yes* and the German *ja*. From *iocus* also comes the German word *juwel*, the Italian word *gioiello* (both meaning *jewel*), and the English *joke* — indicating that having fun is something precious, beautiful and valuable. Again, this is another hint at the strong relationship among games, playing, fun, pleasure, and beauty (such as in the arts), as discussed earlier.

*Ludus*, on the other hand, denotes the action of physical playing, such as in sports, competitions, institutionalized games (e.g., the Olympic games); The plural, *ludii* was used for public performance events such as theatre and gladiators’ show (*ludii gladiatorii*). The word *ludus* will show up again in the next section. Concerning modern languages, both *ludus* (noun) and *ludere* (verb) survive only as derivative forms in unexpected words, such as *illusion* (the experience of being captured in a fictive and false believing), *delusion* (coming out of a fictive believing, with the consequent disappointment), *conclusion* (bring the game to an end), *prelude* (what comes right before the game starts), etc. Interestingly, similar derivatives exist also in German as the suffix *-spielen*. For instance, *anspielen* means to “illude.”

The dichotomy between *iocus* and *ludus* brings to mind Callois’s dimensions of games: some are make-belief activities (*mimicry* and to a certain extent *alea*), while others require a physical dimension (*agon* and *ilinx*). Hence, the word *play* can be used to mean “playing a large variety of games.”

### 1.3.1.2 Play, and Spielen

Both the German *spielen* and English *play* come from a Nordic root, \**spil*<sup>5</sup>, which denotes a happy, dancing movement, such as the one displayed in swordplay, or in the German “Die Hand mit im Spiel haben” (literally, “the hand is playing with something”, which means “being busy with something”). Thus, *play* also involves movement and action, and, as we pointed out above, is associated with performing arts, music and theatre (or dance), but not figurative arts. Notice that the semiotic definition for game fits a theatrical *play* very well: we see a specific set of semi-

<sup>4</sup> The exception being the Italian *scherzare* and the Spanish *bromear* (equivalent to the English *mock* or *tease*) which came from more recent vernacular roots.

<sup>5</sup> The \* indicates ancient words that are not used in that form any more in a language.

otic codes (dialogue, facial cues, movements, etc.) being played out within a delimited environment (stage and time).

The deep relationship among the different languages is further illustrated by the metaphor: “There is some *play* between the gear’s levers and cogs.” Interesting, this very metaphor exists almost verbatim in Italian, Spanish, French and German. In this case, *play* is presented as a sort of free movements within a rigid or confined structure. This brings us to the seventh implication.

#### **IMPLICATION #7: Play as Free Movement**

As the word *play* implies, a *game* is essentially: a series of free movements within a well-defined (rigid) structure. Potentially, this is how videogames may be used within a formalized structure (e.g., the educational system). However, any revolutionary man becomes a conservative the day after he won: if the free space within a rigid structure is institutionalized, is it still a *free* space?

#### **1.3.1.3 Gamen, and Toy**

Finally, the word *game* (and its close relative: *gamble*) comes from the ancient English word *gamen*, which described a meeting or party, or a moment of joy, amusement, sharing and communion. The concept of *game* thus carries with it an intrinsic social dimension, echoing what we already observed from Game Theory and the Dialogue Macrogame Theory: playing is interactions, and having fun requires being with others, like dancing or making music. This brings us to the eighth implication.

#### **IMPLICATION #8: Play is Social**

Because *play* is fundamentally a social function, this makes *game* a social event. Remember that even in a standalone videogame session, both the human player and the game console (or computer) are partners in the same social (magic) circle. Massive Multiplayer Online Games are huge social events, and so are weekly game club meetings.

Some readers may have heard the expression that “videogames are complex toys.” What, then, is a *toy*? The English *toy* is strictly bound with the word *tool*, and has also connections with several words in other languages, including the Dutch *tiug*, the German *zeug*, and the Swedish *tyg*, which all means gears, or tools. The German word for toy, namely *spielzeug*, literally means “play-tool.” A toy is no more than a specialized tool, designed and crafted for the purpose of playing some kind of games. The notion of *toys as tools* should not be limited to the like of toy-guns,

and dolls; but should be applied broadly to cover other props and accessories, including dress-up costumes, game boards, and rolling dice.

More importantly, many game designers already knew that game *playing* is not determined by the toy, but by the players. It is the gamers who decide how the toy will be used in a game, and they often invent new ways to use the tools. Game modding being the case in point, gamers could either mod new contents – as in *Neverwinter Nights* (2002), *Halo: Combat Evolved* (2001); or uncover hidden content – as in the case of the “Hot Coffee” mod in *Grand Theft Auto: San Andreas* (2004).

#### 1.4 Otium vs. Negotium

The last step in this chapter goes one step further, going back to the worldview of the forefathers of the Western civilization again following the path of words. Ancient Latin and Greek cultures organized all human activities into two categories. The free citizens of Rome and of the Greek city-state (meaning not slaves and foreigners) deserved to spend their days in what we would call “free time”, i.e., time that could be spent in self-selected activities for the purpose of spiritual, intellectual or physical personal development. Such activities were termed *otium*, and included arts, sports, study, flirting, and children’s games.

From the perspective of this chapter, *otium* mainly included autotelic activities, while all remaining activities were performed out of economic necessity, including fieldwork, craftsmanship, commerce, etc., and were classified as *negotium* (literally: the *neg*-ative form of *otium*). The dignity of free men would be diminished if they were compelled to spend their time for low or animal needs such as feeding and making money. Nevertheless, *negotium* was necessary for living, and was therefore assigned to slaves<sup>6</sup>.

Already at a first look, games and playing, just like music and sports, were included in the *otium* part of life, and were therefore considered activities for the free man. Also, education, even if in forms quite far from the modern school system, was of course the peak of the activities aimed at personal development and grouped under *otium*. Education was the way to raise new generations of free man that would bring new life to the city. Indeed, Latin marks a striking relationship between *playing* and *education* as forms of *otium*.

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<sup>6</sup> The value and dignity of the daily work as professional activity and the consequent affirmation of the dignity of slaved beyond the distinction of *otium* and *negotium* was first introduced by Christianity.



### *1.4.1 School and Teachers*

In the last section we mentioned the Latin word *ludus*, which was used for institutional or performance games. A most interesting finding, perhaps even shocking to some readers, is that the same word belonged to the world of education as well. Teachers were in fact called *magister ludi* (literally, *Game Master*), and what we could call today schooling was called *ludus* (literally, *Game*).

Obviously, the notion of school in Ancient Rome is markedly different from today's public state schools (Guttek, 1995). In that world, education was the means to groom children into real men and citizens of the nation, through the tutelage of a wise teacher, as in the case of Alexander the Great, who was tutored by Aristotle. In this sense, education or schooling (*ludus*) was an institutionalized mean to engage youngsters in autotelic activities meant for the development of a free person. While historical differences are great and would require hundreds of pages to be accounted for, the ideal aim assigned to the education system is strikingly close to our perception of what schools should be made for.

Ancient Greek had an even stronger connection between *games* and *school*. The Greek equivalent for *otium* was *skolé*, which is actually the root word for *school* (Estienne, 1825). The Greek word *paideia*, which meant *game*, was also used to mean *education*, or the “upbringing of children”. The word *paideia* is still to be found in the current English word *encyclopedia*, (*encyclo-paiedia*) meaning “all-round(ed) education.” Interestingly, *paideia* came from the root words, *\*pai*, as in the Greek word *paizó*, which mean “playing” or “making a funny trick” (just like the Latin word *iocus*).

The modern idea and institutional practice of schools and education have gone through great semantic transformations and have departed from the worldview of ancient Romans and Greeks. Yet, the Greek and Latin cultures remain the roots of the Western civilization and of its idea of person, knowledge, society and education. At that beginning of our history, the words used for describing education, games, playing, upbringing of children, and learning are all very closely related. At that time and place, *school* was the means and an opportunity for young men to voluntarily submit themselves to a set of rules as a price to become “cultivated free individuals to who were suited to live in a free city” (Guttek, 1995, p. 28). While the activities thus became the end – an exercise to grow up as free men. This leads to the ninth implication.

### **IMPLICATION #9: School as Social Responsibility**

The understanding of *going to school* in ancient Rome or Athens is far from being a superimposed mandatory participation to someone else's plans, but carries with it a social responsibility. Kids who attend school will learn the higher way of the society through *otium* and will join the society as free men, i.e., free from *negotium*, and therefore not slaves. Such children were held responsible for not wasting the opportunity: they were charged with the moral duty to perform (*play*) well in their learning. This probably echoes what we would like schools to be – an opportunity for raising free men and women – but is often at odds with the reality of many situations, in which school equals mandatory and boring. Also, school is often viewed as work (*negotium*): e.g. school work, homework, “Work on the Mathematics problems,” etc., and not as a chance of expressing oneself.

## **1.5 Conclusion**

Defining the word “games” is a difficult task (see Salen & Zimmerman, 2004). Hence, instead of trying to provide a definition for the term in the usual way (in a sentence or a paragraph), we have tried to examine several aspects about “games” and its relationship to “play,” to gain a better understanding of the characteristics of games and how these characteristics affect education.

Firstly, we tried to refine our generic idea of *game* and *playing* into a more useful working concept for educators, bringing together several critical points about the use of games in the classroom. This was strengthened by a literature review about games as instructional devices or strategy that reviews the educators' viewpoints of “what games are,” culled from textbooks and reference books for teacher education, technology integration into classrooms, instructional design and educational technology.

Secondly, we explored some modern disciplines that include the word *game* as a standard and well-defined concept in their field. Among the many possible, we selected Economics, Argumentation Theory, Semiotics and Philosophy. Each discipline defines *game* in a different way, highlighting specific features or aspects that contribute to a better understanding of the whole phenomenon. The first two steps paved the way for a more in-depth exploration of the complex meaning of playing and games in the Western tradition through the analysis of languages.

Thirdly, we compared the words used for these concepts in a sample of modern Western languages, namely English, French, Italian, German and Spanish. Finally, we provided an analysis of the meaning of the words: “games” and “play,” by examining their meaning in the ancient Greek and Latin root words. Our analysis

unveiled a most astonishing connection between “playing” and “education” as described by the Western classical worldview.

Based on the (nine) implications drawn during the chapter, it can be said that games are free-form activities that exist within a highly structured environment, to be enjoyed freely at certain moments in life. To do so, players are expected to voluntarily enter the game world and commit themselves by following the rules set out towards its end in order to resolve the tensions into a heightened sense of being. Toys are tools to assist in the playing, and though useful, they cannot dictate how the game is to be played because only the players can decide the course and the end of a game.

Even though our path of analysis has yielded many implications for games and play, we feel that the work is far from complete. As videogames research becomes increasingly acceptable (Hill, 2005), even more disciplines will join in the foray to *define* and *redefine* the concepts of *games* and *play*. The lexical analysis research frameworks provided in this chapter can always benefit from a more thorough treatise. Other researchers may want to affirm this work by extending the lexical analysis to include other ancient or modern Western languages, and even non-Western ones (such as Chinese, Japanese, Indian, African dialects, Slavic languages, etc.)

### 1.5.1 Education as Game

The notion of teachers as *magister ludi* (literally, Game Master) may also be worthy of further investigation. Loh (2007) suggested that teacher could lead an online role-playing videogame played by his or her class in the role of a Dungeon Master (DM; otherwise known as Game Master)<sup>7</sup>. This perspective seems to come close to that exploring the idea of aesthetic experience as paradigm for effective learning proposed by Parrish (2006), which also pointed at narrative strategies for instructional design. Even though the toolkit for Dungeon Mastering<sup>8</sup> has been available for some time, Loh (2007) noted that there has yet to be any work (or research) using this tool to support learning with videogames.

Huizinga wrote, “Let my playing be my learning, and my learning be my playing.” The insights from our inquiry revealed that ancient societies view school, games, play, and education to be much more closely related that we would think. This is probably a first key point in the research on game-based education: many

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<sup>7</sup> Dungeon Master is a term originated from the fantasy role-playing games, Dungeons & Dragons (King & Borland, 2003).

<sup>8</sup> To our knowledge, only the role-playing game called *Neverwinter Nights* (2002) offered such a DM Toolkit. Retrieved January 4, 2007 from <http://www.gamespot.com/pc/rpg/neverwinternights/review.html>

of the oppositions – between learning and playing, between fun and school performance – are possibly only optical illusions due to our distorted perspective.

In retrospect, we (the authors) have just reinvented the wheel – but this was probably a wheel that lay unused for such a long time as to be almost forgotten. By rediscovering the old meanings of the words within our tradition, we hope to help seeing the new context of game-based education and videogames in a clearer light. We hope we have provided insights and possibilities for educators, researchers, and game designers to scout new and innovative ways to better “*ludere*” our young people.

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## 1.7 References

- Alessi, S. M., & Trollip, S. R. (2001). *Multimedia for Learning: Methods and Development* (3rd ed.). Needham Heights, MA: Allyn & Bacon.
- Anglin, G. J. (Ed.). (1995). *Instructional technology : past, present, and future* (2nd ed.). Englewood, CO: Libraries Unlimited.
- Aristotle (about 350 B.C.). Nicomachean Ethics. *Journal*. Retrieved from <http://classics.mit.edu/Aristotle/nicomachaen.7.vii.html>
- Beck, J. C., & Wade, M. (2004). *Got game: How the gamer generation is reshaping business forever*. Boston, MA: Harvard Business School Press
- Bittanti, M. (2004). Per una cultura del videogames. Teorie e prassi del videogiocare. (Theories and praxis of videogaming for a culture of videogames). *Edizioni Unicopli, 2004*.
- Caillois, R. (2001, 1981). *Man, Play, and Games*. Champaign: University of Illinois Press.
- Fincher, D. (Writer) (1997). *The Game*. USA: Polygram Films
- Gadamer, H. G. (1965). *Wahrheit und Methode*. Tübingen, Germany: JCB Mohr.
- Gee, J. P. (2003). *What video games have to teach us about learning and literacy* (2nd ed.). New York: Palgrave Macmillan.
- Grand Theft Auto: San Andreas. (2004). [Playstation 2 Games]. Edinburgh, U.K.: Rockstar North.
- Gredler, M. E. (1996). Educational games and simulations: A technology in search of a (research) paradigm. In D. H. Jonassen (Ed.), *Handbook of Research for Educational Communications and Technology* (1st ed., pp. 521-539). New York: MacMillan.
- Gredler, M. E. (2004). Games and simulations and their relationships to learning. In D. H. Jonassen (Ed.), *Handbook of Research on Educational Communications and Technology* (2nd ed., pp. 571-581). Mahwah, NJ: Lawrence Erlbaum.
- Gutek, G. L. (1995). *A History of the Western Educational Experience* (2nd ed.). Prospect Heights, IL: Waveland Press.

- Halo: Combat Evolved. (2001). [XBox Games]. Redmond, WA: Microsoft Game Studios.
- Heinich, R., Molenda, M., Russell, J., & Smaldino, S. (1999). *Instructional Media and Technologies for Learning* (6th ed.). Columbus, OH: Prentice-Hall.
- Heliö, S. (2004, February 19-22). *Role-Playing: A Narrative Experience and a Mindset*. Paper presented at the Solmukohta 2004, Helsinki, Finland.
- Hill, M. (2005, September 25). More colleges offering video game courses. Retrieved September 26, 2005, from [http://www.usatoday.com/tech/products/games/2005-09-25-video-game-colleges\\_x.htm](http://www.usatoday.com/tech/products/games/2005-09-25-video-game-colleges_x.htm)
- Howard, R. (Writer), Hallowell, T., Kehela-Sherwood, K., Grazer, B. & Howard, R. (Producer) (2001). *A Beautiful Mind*. [motion picture]. USA: Universal Picture Distribution.
- Huizinga, J. (1980). *Homo ludens: A study of the play-element in culture* (R. F. C. Hull, Trans.). London: Routledge & Keegan Paul.
- Johnston, J. (Writer) (1995). *Jumanji*. USA: TriStar Pictures.
- Jonassen, D. H. (Ed.). (1996). *Handbook of Research for Educational Communications and Technology* (1st ed.). New York: MacMillan.
- Jonassen, D. H. (Ed.). (2004). *Handbook of Research on Educational Communications and Technology* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.
- Kahn, C. H. (1981). *Art and Thought of Heraclitus: An Edition of the Fragments With Translation Commentary*. Cambridge, UK: Cambridge University Press.
- King, B., & Borland, J. (2003). *Dungeons and Dreamers: The Rise of Computer Game Culture from Geek to Chic*. Emeryville, CA: McGraw-Hill/Osborne.
- Koster, R. (2005). *A theory of fun for game design*. Scottsdale, AZ: Paraglyph Press.
- Lever-Duffy, J., McDonald, J. B., & Mizell, A. P. (2003). *Teaching & Learning with Technology*. Boston, MA: Allyn & Bacon.
- Loh, C. S. (2007). Designing Online Games Assessment as "Information Trails". In D. Gibson, C. Aldrich & M. Prensky (Eds.), *Games and Simulation in Online Learning: Research and Development Frameworks* (pp. 323-348). Hershey, PA: Idea Group, Inc.
- Maddux, C. D., Johnson, D. L., & Willis, J. W. (1992). *Educational computing: Learning with tomorrow's technologies*. Boston, MA: Allyn and Bacon.
- Mann, W. C. (2002, July 11-12). *Dialogue Macrogame Theory*. Paper presented at the 3rd SIG-dial Workshop on Discourse and Dialogue Philadelphia, PA.
- Melchiorre, V. (2006). Gioco. In V. Melchiorre (Ed.), *Enciclopedia Filosofica*. Milano, Italy: Bompiani.
- Michael, D., & Chen, S. (2006). *Serious games: Games that educate, train, and inform*. Boston, MA: Thomson Course technology PTR.
- Nash, J. F. (1951). Non-Cooperative Games. *The Annals of Mathematics, 2nd Ser.*, 54(2), 286-295.
- Neverwinter Nights (Version 1). (2002). [Computer Games]. New York, NY: Atari, Inc.
- Parrish, P. (2006). *Aesthetic Principles for Instructional Design*. Paper presented at the annual conference of the Association for Educational Communications and Technology (AECT 2006).
- Prensky, M. (2000). *Digital game-based learning*. New York: McGraw-Hill.
- Rieber, L. P. (1996). Seriously considering play: Designing interactive learning environments based on the blending of microworlds, simulations, and games. *Educational Technology, Research, and Development*, 44(2), 43-58.
- Rieber, L. P., Smith, L., & Noah, D. (1998). The value of serious play. *Educational Technology*, 38(6), 29-37.
- Rosen, L. D., & Weil, M. M. (1995). Computer Availability, Computer Experience and Technophobia among Public School Teachers. *Computers in Human Behavior*, 11(1), 9-31.
- Salen, K., & Zimmerman, E. (2003). *Rules of play : Game design fundamentals*. The MIT Press.
- Salen, K., & Zimmerman, E. (2004). *Rules of play: Game design fundamentals*. Cambridge, MA: The MIT Press.

- Schiller, F. (2004). *On the Aesthetic Education of Man* (R. Snell, Trans.). New York: Courier Dover Publications.
- Sheldon, L. (2004). *Character Development and Storytelling for Games*. Boston, MA: Thomson Course Technology PTR.
- Smith, P. L., & Ragan, T. J. (1999). *Instructional design* (2nd ed.). New York: John Wiley & Sons, Inc.
- Smuts, A. (2006). Video Games and the Philosophy of Art. *Journal*. Retrieved from <http://www.aesthetics-online.org/ideas/smuts.html>
- Van Ments, M. (1999). *The effective use of role-play: Practical techniques for improving learning* (2nd ed.). London, UK: Kogan Page.
- Von Neumann, J., & Morgenstern, O. (1953). *Theory of games and economic behavior*. Princeton, NJ: Princeton University.
- Walton, D. N. (1984). *Logical dialogue-games and fallacies*. Lanham, MD: University Press of America.