We are the world…
we want to play a game!

About video games, 21st century skills, emotion and art education

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Introduction

(…) "Every day starts at twelve to six in the morning.
The music slightly comes up, always the same cd.
The computer automatically starts.
Bens first job: twice 'Lethal Assault'.
He saw this as a training. Training for the silent warrior,
Who must Ernestine the game of the day,
danger lurks around every corner." (…)

(freely translated in English, Balthazar, 2007, p. 36)

In this literary research I asked myself the following question: *Are the emotional experiences through playing video games of any benefit in art education?*
A question that immediately raises other questions:

- What kind of emotional experiences players get anyway?
- Why through video games, what is their benefit?
- What learning skills for the Art should be taught?
- Can these skills be linked to the emotional experiences?

Since the early nineties of the last century we are living in the Digital Age where children, youth and teens are *digital natives* (Prensky 2001): 'native speakers' of the digital language of computers, videogames and the Internet. These young persons who were born during or after the general introduction of digital technology, and through interacting with this technology from an early age they have greater understanding of its concepts. As Prensky (2001) says: "Today's students have not changed incrementally from those of the past, nor simply changed their slang, cloths, body adornments or styles, as has happened between generations previously. A really big discontinuity has taken place. One might even call it a 'singularity' – an event which changes so fundamentally that there is absolutely no going back. This so-called

'singularity' is the arrival and rapid dissemination of digital technology in the last decades of the 20th century."

Games are a routine part of childhood

Videogames as a piece of digital technology, has evolved from an ancient product as *Tennis for Two* (1958) into a mainstream cultural product with motion capture like *L.A. Noire* (2011). Today's videogames are immersive multimedia experiences: interactive stunning graphical and auditory depictions. Virtual worlds in which players, individually or collaboratively, solve problems in highly motivating contexts. This seems to be something new in our world: the representation of the player, their agency and their aesthetic experience, within a fictional world. Something completely different from other forms of media like novels of movies.

Hayes and Gee (2010, p. 7) argues, that games have become a site for activities and skill building that go well beyond simply playing games and involve crucial 21st century skills.

All these radical changes and innovations in technology, almost too numerous to mention, shifted radically young people's growing-up experiences and recreational interests. With the advent of IPod, IPad, IPhone and Android in the Netherlands the average time spent on games is increased by 70% since 2008 (6,8 hours a week). Including an hour and a half playing games on Hyves, Facebook, IPad and mobile phones (Newzoo, 2011). The global games industry is expected to grow in casual, mobile and social gaming in the short term and will get a boost from the next generation of consoles, expected in 2013. The Dutch games industry is structurally similar to the global industry and will also see a lot of its growth come from the new areas like social, mobile an portal gaming (a quarter of the expected €805 revenues in 2013, Deloitte/Dutch Game Association, 2011)

As a number of studies indicate, today's schoolchildren, elementary through college, are now playing electronic games almost every day: Games are a routine part of normal childhood and adolescence (HBCS (2005); Futurelab (2006); De Pauw, Pleysier, Van Looy en Soetaert, 2007; Van Rooij en Van den Eijnden (2007); Van Rooij, Schoenmakers, Meerkerk En Van de Mheen

(2008); National Gaming Survey/TNS NIPO and Newzoo (2008); TNS Digital Life (2010)). If this is not familiar to you and you like animation, watch the movie *Cloudy with a chance of meatballs* (Columbia Pictures, 2009), in particular from 59:28-1:04:16, and you know exactly what is meant by *digital native* and *digital immigrant*. And in this case you are the 'immigrant'.

If you have a closer look at all these surveys (see note [iii] above), you can conclude that it is difficult to compare all the individually valid data. All I can say after extensive study of the data is, that it is clear games are played in increasing percentages by the years, both boys and girls. And, that these kids play video games on all platforms, the hardware on which the games run: stand-alone pc (online and offline), (mobile) game portals (IPod, mobile phone with internet access, Nintendo (3)DS) and consoles (Playstation 2/3, Xbox 360 and Nintendo's Wii and GameCube): So Internet access is not by

all times necessary. Games are played mostly as a 'leisure activity'. However, in these studies leisure is not associated with data on emotional motivations to play. Therefore we have to consult some other studies as you will see later in this article.

What characterizes a digital native?

Due to media attention, a variety of terms are being used to describe this generations *digital natives*: *Generation Y*, *Gen I* (Internet Generation), simply *Net Gen* or *Generation@*, all born between 1980-1995. The latest generation is called *Generation Z*, born from 1995 onwards, our K-12 and teens today. In the Netherlands this generation also is known as *Generation Einstein* (Boschma & Groen, 2007), *Screenagers* (Bontekoning, 2007) or *Homo Zappiens* (Veen, 2009). But, what's in a name? It is not at all about how you name them, it is much more about what characterize them. A *digital native* can be characterized as follows: an active attitude, informal learning through discovery and exploration, working together in interaction, networking, result oriented, does what he is good at, intuitive, conceptual, social and authentic. It is a generation which Boschma and Groen (2007), Bontekoning (2007) and Veen (2009) says are 24 hours a day accessible, learn and live in different (online) networks and are good at multitasking, technology is a second skin, they communicate in pictures, have multiple identities and zap information Attitudes which can be seen as important building blocks for the knowledge and skills necessary

for the 21st Century (Gardner, 2008), especially the skills for the Arts. Off course I generalize, above attitudes do not characterize the whole youth. There are huge differences between using, or being able to use, instruments of the Digital Age (Van Dijk, 2003). He claims in his report that nearly everyone has a computer with Internet access (according to TNS Digital Life in 2010 a 88,6% of all households), but when it comes to using and skills there is a social inequality, with 'no motivation' as the biggest reason. Opportunities for education media literacy's and game developers.

Are there emotional motivations for Video Game Play?

As Michael Highland mentioned in his film *As Real As Your Life* (2006): "In the beginning people strove to create an event: the event of people playing ping pong. A simulation of a game in abstraction. I, like many of you, live somewhere between reality and videogames." He was born in 1984, grew up learning to read and write and become of age alongside the digital revolution. He spent a lot of time in front of the television and roughly half a million commercials have left a mark on him. His parents bought for him and his sister their first Nintendo and soon playing videogames became 'an alternate existence'. Even he knows loosing the grip on reality, he still wants to grave more. From an early age he learns to invest himself emotionally in what involved for him on screen. What he learns he applies to his real world. And emotions is what it is all about: "Today's videogames beginning to make me emotional. The people who create those games know what makes me scared, exited, panicked, proud or sad. My virtual experience feels just as meaningful as my real life. You are interactive with their entertainment in a highly coded system of cause and effect, emotionally gripping stories and characters, and hyper real game play environments."

Today a new breed of games have emerged, games in which players make their own decisions and negotiate the consequences. Not only the commercial games as *Grand Theft Auto IV* (Rockstar games 2006-2008), *The Sims Medieval* (Electronic Arts Inc. 2011) and *L.A. Noir* (Rockstar games 2011), also some Indie games as *The Graveyard* (Tale of Tales 2008), *Paperplane* (ENJMIN 2010), *Dinner Date* (Stout Games 2010) and *Bohm* (Monobanda 2010). Indie games are carefully crafted experiences and they attempt to draw an emotional response from the player, l will come back to later.

In recent years the technology behind video games allow a true overlap between virtual and real life stimuli. As gamers we are now living by the same laws of physics, in the same cities and do many of the same things as we wants to do in real life only virtually. But, compared with real life or a movie, a videogame allows players more control over emotions: Players can choose situations to elicit or avoid particular feelings (Cragg et al., 2007).

How amazing videogames may become, we must stay aware of what our games are teaching us and how they leave us feeling when we finally do unplugged. Jonathan Frome (2007) says many scholars are interested in videogames' ability to generate emotions: Developers want to make videogames that make people cry, educators want to engage students in learning and psychologists want to understand people's motivations to play. Yet the extreme differences between these fields create obstacles in studying the wide range of emotions videogames can generate. Hugh Bowen (2005) wondered 'if games can be more than thrilling special effects'? Can videogames actually make you cry, as Walt Disney had wondered about his early cartoons? As a researcher he conduct a survey because he wants to understand better how the emotional component that impacts you. He fielded a national online survey in the US with 535 gamers in which he wants to explore how important the range of emotions is to the success of any particular game. Over a third of the participants report that games are quite an emotional experience, 8% think they are tremendously emotional, 29% quite a bit. Two-third think games exceed (9%), could exceed (32%) or could equal (27%) the emotional richness of other major forms of art and entertainment. When asked what art forms speak the most to them, games do not rank the top, movies do (see next page):

- Movies
- Music
- Books
- Video/pc games
- Paintings/artwork

‘Modding’ as a form of creativity

As we look at the video game genres, role playing games (RPG’s) were ranked emotionally powerful by 78%, First Person Shooters (FPS) 52% (Bowen 2005, n=535) or RPG 54,8% and FPS 78,8% (De Pauw et al., 2008, n=354). FPS is a genre of video game involving the representation of a fictional world from the first-person view of the player-character. An RPG is a game in which the identity of player-characters and their ability to be customized or changed over the course of a game is prominent: In ‘game world’ it is known as ‘modding’. ‘Modding’ is defined as changing the game using the computer code, it can range from simple customization of game characters’ appearance to the creation of new game level. In an review (Cheryl K. Olson, 2010) draw on survey data collected from 1.254 students (>98% 12-14 years of age) in public schools (Olson et. Al., 2007) follows that they play games for several emotional reasons (excitement, relaxation, and coping with anger). But, especially for liking to ‘mod’ games: 43% (n=1.137). They are strongly motivated by creativity (‘I like to create my own world’). A national phone survey of youth ages 12-17 for the Pew Internet & American Life Project found that 28% who play videogames often or sometimes used ‘mods’ to change their games (Lenhart et al., 2008).

Customization (‘modding’) is, according to Gee (2003, 2004, 2005,) one of the learning principles good games incorporate. The phenomenon of ‘modding’ video games is a particularly good example of complex thinking and problem solving, often done collaboratively, in today’s popular culture. Games today often come with ‘modding’ tools that allow gamers to modify the game by creating new game environments and levels, or changing the characters of elements of game play in the game (Hayes and Gee, 2010). Gee supported, years ago, his son by playing a videogame, and he saw how well the game held his son’s attention. He wondered what sort of beast a more mature video game might be and bought some to play. He was amazed: ‘it was hard, long and complex’. As a digital immigrant he failed many times and had to engage in a virtual research project via Internet to learn some of the things he needed to know. He became intrigued by implications good video games might have for learning in and out of schools. ‘Modding’ as extrinsic motivator that provides immersion and emotion. In his newest book

Women and Gaming – The Sims and The 21st Century Learning (2010) Gee says: (…) Such modding is a source of complex technical skills, as well as sociotechnical skills.

As mentioned earlier, FPS games are played often and ranked emotional powerful. The FPS-technique was used in the cross-over project *Everything I Do is Art, But Nothing I Do Makes Any Difference* (Pat Rios and Chris Reilly, 2006). Rios had filled a Chicago gallery with objects and furniture that suggested his mantra that 'everything he does is art'. Reilly replicated the gallery space and its art pieces in a 3D FPS game environment by manipulating the architecture. During the performance, Reilly manipulated the character to 'interact' with the space by shooting up and 'graffitiing' with a virtual machine gun. Doing so he was reacting to Rios' artistic vision. In a second version of the work the same year (*Everything I Do is Art, But Nothing I Do Makes Any Difference*, Part II *Or: How I Learned to Stop Worrying and Love the Gallery*) visitors could also virtually pick up cans of spray paint to create their own art work. Moreover, using the FPS-angle is not new in the media. In the movie *Lady in the Lake* (Robert Montgomery, 1947) and in the Dutch movie *En Route* (Paul Ruven, 1993) we do not see the protagonist, we only see what he sees. Or in *En Route* you as audience are 'actually' on the backseat of the car. But it is not the same experience as in video games where you have the opportunity to 'mod' the game.

To an understanding and explanation of the emotional response

But, there are many ways to classify emotions as Frome (2007) argues. In this paper (in which he considers emotions to be any type of response to stimuli that has a phenomenological 'feeling' associated with it and which is designed to encourage an organism's well-being) he presents a model (*fig. 1, next page*) of emotional response that attempts to describe the wide variety of emotions videogames can generate. The goal of this model is: 'to create descriptive categories and vocabulary that help us understand and explain various emotional responses. The framework can be informed by and consistent with the aspects of emotion common to all people and still give proper emphasis to the enormous influence of historical and cultural factors of emotional response'. The novelty of this model, according to Frome, is that it categorize emotions not based on conventional categories, but based on ways that players can engage with the hybrid nature of videogames. The model captures ecological and artifact

emotions, because videogames are simultaneously simulations of reality, fictional narratives, games *qua* games, and crafted aesthetic objects.

Types of Emotion	**Audience Role:** ***Observer-participant***	**Audience Role:** ***Actor-participant***
Ecological	Sensory environment	Proprioception
Narrative	Narrative environment	Role-play
Game	Game events	Game-play
Artifact	Design	Artistry

fig. 1

There are two complementary ways we might think of the inputs on this chart. One is to see them as the different emotion-creating aspects of a videogame. Another way to think about these inputs as concrete stimuli, different things the player can experience through images, sounds and the game interface. For a more detailed description through an example videogame, I refer to the complete paper (Frome 2007).

Skills for the Arts, skills for the future

Partnership for 21st Century Skills advocates for the integration of 21st Century Skills into K-12 education so that students can advance their learning in core academic subjects (www.P21.org). The partnership has forged alliances with the key national organizations that represent the core academic subjects, including Social Studies, Math, Science, Geography and the Arts. The different *21st Century Skills Maps* are the result of hundreds of hours of research, development and feedback from educators and business leaders across the US. Their mission is successfully face rigorous higher education coursework, career challenges and a globally competitive

workforce. Therefore US schools must align classroom environments with real world environments by fusing the three Rs and four Cs:

The three Rs include: English, reading or language arts; mathematics; science; foreign languages; civics; government; economics; arts; history; and geography. The four Cs include: critical thinking and problem solving; communication, collaboration; and creativity and innovation.

In Europe we have the European Reference Framework of Key Competences, the 'Eight Keys of Competence' adopted by the Council and the European parliament in 2006 (next page):

- Communication in the mother tongue;
- Communication in foreign languages;
- Mathematical competence and basic competence in science and technology;
- Digital competence;
- Learning to learn;
- Social and civic competences;
- Sense of initiative and entrepreneurship;
- Cultural awareness and expression.

The partnership in the U.S.A. also defined specific skills for The Arts. Let's have a look at the *21st Century Skills Map The Arts*. In the United States the arts – dance, music, theatre and the visual arts – are recognized as 'core academic subjects' in Federal Law, as well as in state statutes and core educational documents (*No Child Left Behind Act* 2001). Officially art educators work with these skills and the goals listed in the National Standards for Arts Education (1994) (NAEP is The Arts Report Card, U.S. Department of Education, National Center for Education Statistics, 1997).

Each of the four distinct disciplines of the arts as mentioned above, offers its own unique set of knowledge, skills and processes. As a whole however, the arts are uniquely situated to provide links from school-based learning to themes that are essential to every child's understanding of the modern world. I come to this later.

21st Century Skills Map – The Arts:

- Critical Thinking and Problem Solving;
- Communication
- Collaboration

- Creativity
- Innovation
- Information Literacy
- Media Literacy
- Information, Communication, and Technology Literacy
- Flexibility and Adaptability
- Initiative and Self-direction
- Social and Cross-cultural Skills
- Productivity and Accountability
- Leadership and Responsibility

If we have a look in the Netherlands, researchers of CASE Network Report, concluded in their Report no.87, *Key Competences in Europe – Opening doors for lifelong learners across the school curriculum and Teachers Education* (2009, p. 89) that the '8 keys of competence' were entered the Dutch schools into a curriculum review. In this report they do not specify rather the individual competence for each country. Plainly, the report stated that the Dutch Government supported the '8 Key Competences'. The competences although are integrated in the in 2006 revised goals for primary and secondary education (Kerndoelen, TULE-SLO).

Business leaders and visionary thinkers concerned about preparation of students for the future know that the ability to be creative – a key 21st Century Skill – is native to the arts and is one of the primary processes learned through arts education. Though there is an interest in school reform and 21st century skills in the United States, too often this interest focuses narrowly on so-called STEM: Science, Technology, Engineering and Mathematics. These leaders and visionary thinkers argue for STEAM, which includes the A of Arts. Graphic designer and computers scientist John Maeda (2010) toured the world to promote this idea.

The *Goals Primary Education, the Arts* contains three and only one is relate to the 21st Century skills. For *Secondary Education, domain Arts and Culture*, the Government has established five goals. Only two of them relate to 21st Century skills. There are no such goals and learning outcomes for multimedia or media literacy's at all.

Creativity is a strongly motivated reason to play videogames as mentioned above. Open-ended games with multiple solutions and play options, so-called *sandbox games* (Tavinor, 2006), are especially conducive to 'modding' and self-expression. Squire (2008) refers to such games as 'possibility spaces', where multiple trajectories of experience can lead to new ways of learning.

More emotion in innovative future games

Communications in today's interconnected world increasingly emphasize multimedia. And the arts are woven throughout the fabric of our lives and the tapestry of our society. We engage with the arts every day. Artistic products envelop our daily , particularly those of youth. As mentioned earlier they are what we listen to, talk, watch and read, create on YouTube, wear, put up on our walls…the products are everywhere: the digital and the non-digital fully intermix. The key connector of all these artifacts in our lives is emotion, these things matter to us. Do our children go to school only to prep for tests that are limited in scope and focus to the three R's of Retention, Recall and Replication instead of the three R's mentioned above? As Bruce D. Taylor, director of education for the Washington National Opera in Washington D.C., says in Education Week (2011): "We must allow and encourage teachers to be creative in devising ways to reach children in a variety of circumstances, cultural frameworks and emotional conditions, to have the flexibility to shift gears, to create alternative methods, and to inspire in their students an emotional commitment to attaining mastery".

To create more emotion in innovative future games, XEODesign wanted to know more about the role of emotion in games and indentify ways to create emotion other than story cut scenes. They ask themselves questions like: How many emotions do games create? Do people play to feel emotions? If they are important, where do the emotions come from? Do people modify games to feel differently? Is it possible to build emotions into games by adding emotion-producing objects or actions to game play rather than cut scenes. XEODesign conducted an independent cross-genre research study (with 15 hardcore gamers, 15 casual gamers and 15 non player) on why people play games and identified over thirty emotions coming from game play rather than story. This results revealed that people play games not so much from the game itself as for the experience the game creates. They went off in search of emotion and found Four Keys to releasing emotions during play. The thirty gamers were playing 90-120 minutes

where they normally do, while observed by researchers. At the end they were also questioned. The non-players were interviewed about their observations nearby the players during observation. Three types of data were collected: video recordings of what players said and did (45 hours), players questionnaire responses and verbal and non-verbal emotional cues during play. XEODesign analyzed over 2.000 observations from video transcripts, facial expressions, questionnaire responses and session notes that they sorted into affinity groups. As a result the four most important pathways to emotion in games were presented in called *Four Keys*, or *The 4 Fun Keys*(XEODesign, 2004). Four keys to emotion without story that met the following requirements (next page):

(XEODesign, 2004)

Criteria for this keys (next page)**:**

- What players like most about playing;
- Creates unique emotion without story;
- Already present in popular games;
- Supported by psychology theory and other larger studies.

What surprises Lazzaro the most, was the dramatic contrast in emotional displays between one vs. several people playing together. Players in groups emote more frequently and with more intensity than those who play on their own.

Videogames and the Arts

According to Grant Tavinor (2009) videogames are a new and sophisticated form of popular art: "Videogames are a growing phenomenon and influence in the modern world (…), games are displaying new levels of artistic sophistication. As such they seem to engage many of the same issues as do the traditional arts. In the arts questions about aesthetics, representation, narrative, play and emotional engagement have been traditional to focus." We could explain his assumption by graving in the existing theories within the philosophy of the arts, as he does extensively in his book, to find how the nature of videogames sits in the nature of the arts. We could also look at the recent cluster theories of art. And it that case, I think if Gilbert Vivian Seldes was still a life writing his book *The Seven Lively Arts* (in which he argued as we now knew, that America's primary contributions to artistic expression had come through emerging forms of

popular culture such as jazz, the Broadway musical, Vaudeville, radio, Hollywood cinema, the comic strip, and the vernacular humor column) he would like to add videogames to his list of popular culture. A 'mod' is a 'living product, so more ideally in the spirit of Seldes, we might call 'modding' a living art. Although the question if videogames are indeed art, is a very interesting one, it is not what matters here. So I leave it only by dropping this as a reflection: Are we still waiting on a *Citizin Kane*, a *1984*, a *Hamlet* of the games medium, the game what will finally make them sit back and think "Wow…" (Cahill, 2008) or is this no future anymore?

Videogames are, in particular, an excellent form of multimedia: That part of the information technology that focuses on the seamless integration of different information types (e.g. data, text, graphics and sound) and their interaction with the various human senses. Many definitions of what a videogame actually is, go round (Marc Prensky, 2001, Gee, 2003, Salen & Zimmerman, 2004, Juul, 2005, Brown, 2008). The one Tavinor (2009, p 29) claims in his book, is the one I prefer in this case: X is a videogame if it is an artifact in a visual medium, is intended as an object of entertainment, and is intended to provide such entertainment through the employment of one or both of the following modes of engagement: rule and objective game play or interactive fiction.

November 2008 the Game Fund, an initiative of the Media Fund, the Fund BKVB and the Ministry of Education launched: To facilitate and boost the development and production of artistic, virtual games. The fund seeks a cross-fertilization between different disciplines of the art, the creative industries and cultural institutions. The Indie game *Bohm* (Monobanda, 2010) was funded by the Game Fund and awarded for the Nuevo Award at the 2011 Independent Game Festival (San Francisco, USA). Indie games, or Independent video games are video games created by individuals of small teams without the video game publisher financial support. This genre often focus on innovation, creativity and artistic experimentation and rely mostly on digital distribution. You can buy a indie game for say four Euros and download it on your mobile. The titles are much more smaller than the mainstream. In a relatively short time you undergo a magical experience of discovering as I experienced myself.

In February 2011 the European Union, Dutch Government and the province and city of Utrecht invest 4 million Euros in the Dutch Game Garden in five years. The Dutch Game Garden works with the game programs of the HKU College of Arts in Utrecht. The headquarter of the Game Garden include 35 small game develop companies. All members of team Monobanda, who designed *Bohm*, studied at the HKU college of Arts - Design for Virtual Theatre and Games. At this college students learn to develop new games with theater techniques and interactive techniques in theater. In an interview with the three Dutch Indie game developers who were nominated at the Independent Game Festival 2011 (*Volkskrant*, February 25, 2011) says Jeroen D. Stout (Stout Games): "*Dinner Date* is a game in the form of a play, not a game with competitive rules. If you avoid scoring, you can create artistic forms". The developers of *Graveyard* (Tale of Tales, 2008), Auriea Harvey and Michael Samyn, characterize their game as 'a explorable painting, even more than it actual is a game'.

Conclusion

Today's *digital natives* are the employees for the future. For this future we need special skills, the 21st Century Skills as established by the American and also by the Dutch Government. Arts education is the key for teaching 21st Century Skills. Young children, teens and adolescents play video games and over the years the time they spend playing has increased and is still increasing. The video game genre 'mobile games' is ranking the top in this at the moment. By looking at gaming through the lens of how it affects everyday life, I argue that there are important lessons to be learned about learning in the 21st century. Games have become a site for skill build that go well beyond simply playing games. Playing video games also increases emotional experiences and have several emotional outcomes which motivates to play anyway. Commercial games and the experimental, innovative and fully artistic Indie games in particular, are the solution for a games integrated program for the Arts. But only if the player, as role-player or first-person-shooter can 'mod' these games. The customizing increases creativity and emotional benefit. And that is what the Arts are about. *The Four Keys to emotion* (XEODesign, 2004)) is a model to discover pathways to emotion in video games and with *Frome's model of emotional response*

(2007) you can find out the emotion-creating aspects. It is time 'to play the game' because we áre the world and art education can play a significant role!!

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Notes