Learning through Playful Experiences

Achieving conscious competence in reading and applying visual language

Research paper
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Foreword

This final design-research project of the Master Education in Arts studies provided the perfect opportunity to continue the creation of a solid playful learning experience described in this paper. The project concludes two years of studies in which my skills as an educator - and as a developer of education - improved tremendously. The structured ways of doing research combined with refreshed and grounded knowledge on interdisciplinary creative processes were helping me to develop a personal approach to education in Arts. Loaded with both new and existing theories I see that much can be done in the design of our school’s programs and courses. With a greater knowledge on the wide range of creative processes and learning styles I feel more enabled to address and mentor students on an individual level, even when not all classroom situations are individually orientated.

The course on ludodidactics was a key element in these insights. This is the main reason for devoting my final project to ludodidactic means in order to develop a playful learning experience on the subject of my other fascination; visual language. In the learning goals I set myself when starting this Master, I declared that I would become an expert on semiotics and that I would explore the yet unknown field of visual language. In my first steps of this journey I was confronted with my naive position, since this field was only unknown to me. There was so much written already and yet so much to discover for me. This project would have gone adrift if it weren’t for my teachers and partner who helped me regain focus every time my attention diverged from game-theory and education-theory. But at the darkest of night, while guidance was off guard, I did manage to dive into the visual language field a little. Therefore a brief motivation on visual language is included as a context, so that it becomes clear how the educational product is related to my pedagogic and artistic point of view.

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1 Ludodidactic is a special form of designing learning processes by making use of design-principles and methods that derive from game design.
## Index

Foreword.................................................................................................................................III

Index...........................................................................................................................................IV

Abstract.....................................................................................................................................1

1. Introduction ..........................................................................................................................1
   1.1 Cause & context...............................................................................................................1
   1.2 Motivation of content.......................................................................................................2
   1.3 Playful learning...............................................................................................................3
   1.4 Aim of the Research: the question..................................................................................4
   1.5 The Visual Language Cards Game..................................................................................4

2. Theoretic framework ............................................................................................................6
   2.1 Game design principles.................................................................................................6
   2.2 Motivation.......................................................................................................................8
   2.3 Experiential Learning......................................................................................................10
   2.4 Conscious competence..................................................................................................10

3. Interdisciplinary approach and Research methods.............................................................11
   3.1 Population of the research............................................................................................12
   3.2 Stage 1: Concept, validation and results of the First Prototype....................................13
   3.3 Stage 2: Evolution of the prototype...............................................................................13
   3.4 The iterative process......................................................................................................14

4. Results....................................................................................................................................15
   4.1 Results from the surveys to the players.......................................................................15
   4.2 Results from the Participating Observation................................................................17

5. Conclusions..........................................................................................................................17
   5.1 Game design principles contributing to learning..........................................................17
   5.2 Student’s active roles and motivation.........................................................................18
   5.3 Achieving conscious competence..................................................................................19

6. Discussion & Recommendations..........................................................................................19
   6.1 Embedding the VLCg....................................................................................................19
   6.2 Dark Play.........................................................................................................................20
   6.3 Other uses of Visual Language Cards..........................................................................20

7. Reflective..............................................................................................................................21

8. References............................................................................................................................21
   8.1 Literature & Publications.............................................................................................21
Visual Literacy through playful learning experiences
Abstract

This paper explores the combination of game design and education in order to investigate how to enlarge the student’s competence. The spotlight is on the most important language for applied arts and visual design students: that of visual communication.

The theory and expert-views are used for the design of an educational game. The values in the game correspond with my own view on education, which is a combination of hard fun, collaboration, competition and implicit learning, made explicit through reflection.

1. Introduction

1.1 Cause & context

In my practice as a teacher I notice that first year students are often not yet skilled in reflective capacities. The studies are aimed at visual Design through media and the average student is a practical-creator who thinks and acts by doing. Even though learning through practice is key, reflective skills are essential for a profound learning experience and are based on the theoretical part of that practice or field. When looking at a number of activities in which the students are working on their own ‘big production-projects’ it becomes clear that practice is preferred. They are fully into the moment and work hard and motivated. This does however not account for a number of other classes in which the direct goal for the student is less obvious, e.g. knowing about design issues (abstract goal) versus making an awesome music video (clear goal).

I find it socially significant to devote my profession towards learning activities that provide a longer lasting impact and help students becoming motivated to learn. Cobbling together elements from the studies on Constructive, Self-Regulated, Situated, and Collaborative Learning (Corte, 2011-2012) we know that students change from passive learners who absorb concepts and facts (“routine expertise”), to active learners that have an inquiry-based attitude (“adaptive expertise”). When explaining about design theory or art history for instance, students show difficulties connecting it with their own work. The fact that lecturing often lacks hands-on experience, does not help the knowledge transfer, certainly not for students who are practice-orientated. My purpose is to help them, by developing a playful, hands-on experience. The Master Education in Arts combined with practice as a teacher provides the perfect possibility to explore new ways of teaching through both practice and play, hence the decision to explore pedagogy and the field of game design and
combine them with an essential topic in the education of design students. This made me wonder whether it is possible to provide a longer lasting knowledge transfer by designing a different setting in class. To explore this and formulate a solid research question I use the context of my own classes and my expertise on design and visual literacy.

1.2 Motivation of content

The omnipresence of images is clear to all, but the way these images are constructed and the way they can be manipulative are an often under-estimated fact. The psychology of forms as described by Solarski (2012) is influencing the consumer of these images and thus it is elementary to the visual designer. This accounts specifically for student-designers, who are often focusing on the latest trends and technical possibilities rather than being focused on the possible meaning of the *mise en scene* or the construction of the visual elements.

Next to this there are two main reasons for enriching the capacities of students. One is the fact that they refer to other popular images without knowing what these images refer to, in line with Baudrillard’s hyperreality (Baudrillard, 1981). As Camiel van Winkel describes in Regime of Visibility (2005) only the dominant iconic images, which are shared over and over again, are the ones having value. In order to counter these tendencies of the visual primate, the grammar of visual language should become clear on a conscious competence level for a larger audience, starting with the student-designer herself.

The second motivational reason concerns the fact that nowadays everybody is a possible creator. A vast number of people have access to creative tools for photo/video editing and the platforms for publishing like YouTube or Flickr. In addition to those tools and platforms, the constant bombardment of visuals, ensures a growing capacity in reading and interpreting all forms of media (Johnson, 2006).

The capacities needed, can also be noticed in various elements of the 21st century skills as described by Thijs, Fisser, & Van der Hoeven (2014). For instance, one of the characteristics of ‘Critical Thinking skill’ brings the possibility to interpret, analyse and apply any form of information. In the description of the ‘Communication skill’ multiple characteristics can be connected to an increase in (visual) literacy: effective exchange of information; understanding the core of a message; and being able to handle communicative means effectively (Thijs, et al 2014). In their report they expound: “ . . . activities that require knowledge-construction ask students to interpret, analyse, synthesize, or evaluate information or ideas.” However these 21st century skills are quite general and not specifically directed towards visual literacy. The capacity of understanding, ordening and
creating visual information in any form - often referred to as graphiacy - is only slowly entering the realm of primary education (Aldrich & Sheppard, 2000). In their paper they focus on the ability of children in primary school to decrypt and read coded images. Aldrich and Sheppard offer a solution for expanding the students visual literacy through the knowledge-construct-skill, the communication-skill and the critical thinking-skill, that were described by the 21st Century Learning Design program. Having more people skilled in visual literacy, the professional should reposition herself and distinguish her work from that of the amateur.

1.3 Playful learning

At the Innovation Studio of HKU, didactical tools based upon game design principles are being developed and explored. Renger (2014) coined the term ludodidactics and defined it as a special form of educational design which uses principles and methods from game-design. The exam's card game (Hoogendoorn, 2013) developed for the Ludodidactics course at the Master Education in Arts, is a clear example of effective use of game design in education.

The core characteristics of ludodidactic design is that (1) knowledge is transferred through play, (2) the role of the teacher changes (3) the role of the student changes into that of a player, (4) participants show behaviour within the game’s context that contributes to achieving learning outcomes, and (5) there is direct feedback as a result of playing.

Adopting game principles in the design of education proofs valuable. Research of a.o. den Heijer, (2014), Stieltjes (2015) address the effect of games in education and confirm the numerous research in both the educational as well as game-theory discourse.

Instead of developing an activating work-form in the classroom, the goal of this research is to provide the students with a playful learning experience, in the form of a game. The knowledge transfer has to be implicit, and thus, the player’s goal has to differ from the goal of learning about Visual Language. The research question addressed in this paper tries to answer on the possibility of using ludodidactics to enhance visual literacy. In line with the conclusions and advice from the report “Digital literacy and 21st century skills in education: a conceptual framework” (Thijs et al, 2014) students should be able to expand their competences in learning through playing, creative thinking and reflecting.
1.4 Aim of the Research: the question

With the objective that, through playing the students become aware and obtain knowledge and competences about visual grammar and about the psychology of forms, the following central research question is posed:

“What is the improvement of using game design principles in helping students in Arts Education to achieve conscious competence in reading and applying the basics of visual language?”

In order to find coherent answers the question is split into several sub-questions which are addressed in the research:

- Which game design principles contribute to the learning of visual language?
- How can the students maintain an active role during play?
- How can the students be motivated to learn?
- How can the students / players be marked as being consciously competent?

1.5 The Visual Language Cards Game

I developed an educational tool in the form of a game called the Visual Language Cards game using the following goals: (1) It should Facilitate internalised knowledge of visual language through playful creation and argumentation; (2) It should feel like a game; (3) Each player should challenged on her own level and follow her own learning process.

The overall goal of the Visual Language Cards Game (VLCg) itself is to take the role of a super-serious-expert and to create the exhibition’s masterpiece by gaining as much points as possible.

The VLCg consists of a deck of cards containing abstract ideas & principles on visual language. There are four types of cards each being a collection of eight:

- Composition cards describe common composition forms;
- Principle cards describe the basics of visual grammar;
- Characteristic cards describe a more abstract approach of the psychology of form and elements.
- Gestalt cards describe the visual laws of gestalt, How elements are grouped and completed - or not.

Each card contains a written explanation of visual concepts and gives descriptive

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2 henceforth the abbreviation VLCg will be used.
interpretations of visual concepts. Once connecting the cards to visual works, this results in possible discussion or debate⁵.

The game is played in 3 rounds: 'the Studio', 'the Exhibition' and 'the Finissage⁴', each with its own dynamics. The players work in teams of two and assume a given Role. In the first round each team creates an art-work by means of four random cards that contain descriptions of visual elements. They may use any technique (draw, photography, paint, collage...) and they try to be as clear as possible (respecting their role and cards). During the second round the players authenticate or argue the cards of their neighbouring team (and vice versa; another team validates or debunks their cards). In the third round the remaining cards are distributed and each team may try to connect them to any work by argumentation. For each validated card, the creating team receives full points and the reviewing team receives half. Each debunked card only provides points for the reviewing team. The team with the highest score wins the game⁵.

The first version of the VLCg was developed at the Master in Education of Arts (2014-2015) and provided an excellent basis as a creative tool or design-method. The goal of seeing student argument proved more complex though. The second part of the game still felt like an active work-form in a school-setting. This first variant was designed through a number of iterations. Multiple games⁶ were used as examples, inspiration and study-material. Some of their game-mechanics were adapted to VLCg’s gameplay. Since the game was meant to be also played by international students - in international settings - English was chosen as the main language.

The paper continues with the theoretic framework that models the concepts and definitions used. In the following chapter the operational approach describes the process and the methods used to measure the qualities of the product in relation to the questions of the research. The chapter on results gives a summary of the data retrieved from play-testing. The Conclusions provide final ideas proved by the results that contribute to validate the product. The paper is finalised in the Discussion and Recommendations chapter. Here, reflections on the conclusions and the future possibilities in developing playful experiences that can be embedded into a full course are discussed.

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⁵ Bilingual description of cards & design of cards see appendix page 1 -12.
⁴ Finissage is a word for the ceremonial closing event of an exhibition, mainly used in the fine art scene in Germany.
⁵ See appendix page 12 for the full description of rules
⁶ See References for the games used in the development of version 1.
2. Theoretic framework

2.1 Game design principles

The Playful Design canvas (Renger 2014) bridges the fields researched, such that the developer can describe; plan; and test every element of a playful learning experience. The learning variables and the player perspective combined, result in a playful design. Salen and Zimmerman (2004) define a game as: “A game is a system in which players engage in an artificial conflict, defined by rules, that result in a quantifiable outcome”.

Separating the goal of the game from the learning outcome ensures that students are focusing on the play itself and not on the learning outcomes. This enables the student to increase her motivation to play. Once motivated and feeling competent, she attempts to improve - and even master - the competence by means of play. The feeling of competence is one of the three key-ingredients of the Self-determination theory (Ryan & Deci, 2000). Self-determination theory (SDT) further explains the need of attachment (psychological relatedness) and the need to be in control of one’s choices and behaviours (autonomy). Likewise game design also addresses these ingredients. Motivation to keep on playing and the feeling of control, in relation to feeling attached, can be argumented upon using some of the eight components of Csikszentmihalyi’s definition of Flow as elaborated upon by Salen and Zimmerman (2004). Even though they point out that Flow it is not the most useful concept for a game designer, some characteristics of Flow act as a spur in an educational setting: ‘being fully into the activity on a limited field’ and the ‘altered perception of time’ are preferred activities during play.

Shaffer (2006) elaborates on other aspects of Flow, namely the ‘clarity of goals’, ‘balance between skill and challenge’, and ‘melting action with consciousness’ are effective design-outcomes in the development of a playful learning experience.

In order to turn a classroom situation into a playful learning experience, challenges need to be present in the construction. When an experience is difficult, offering challenging goals, tracking points, levels, achievements and providing rewards can make it easier. Discussing the challenges of the game designers, McGonigal (2012) affirms that the most important task is to make things that are hard as rewarding as possible. The challenges though, need to be relevant and related to the task or topic. Shaffer (2006) frequently refers to Dewey’s7 view on learning: “We learn by trying to accomplish some goal in the face of obstacles” (p.125). Dewey continues by arguing that learning must be relevant “When we bump into an obstacle, we have to step back and try to figure out what

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7 John Dewey (✝1952), educational reformer, philosopher, psychologist.
we know - and what else we need to know- to help us get past it. Of course if there is nothing we are trying to do, then when we bump into an obstacle, we just give up, which is why we have to do something that we care about.” Both Floor (pers. Comm 12.05.16) and Hrehovcik (pers. Comm. 09.03.16) also remark on the relevance, stressing this should be a starting point for the designer.

Challenges in a game can be designed with different purposes, each resulting in a different kind of play and with different game-mechanics. Caillois (2001) describes four main types of play, in the form of play (paidia); without a clear rule set and in the form of more game like play (Ludus); with a clear rule set (see figure 1). In an educational situation these distinctive types of play can be used to address the different type of students as well as the different type of activity during the game play.

Figure 1. Forms of play, R. Caillios

Flanagan (2009) connects game theory with meaningful learning following Bennett and Csikszentmihalyi who enunciate that learning through play works well because of essential game design principles. One of these principles defines the actual realm of the game, referred to as the Magic Circle (Huizinga, 1938). Salen and Zimmerman (2004) describe the magic circle in terms of time as well as space and explain how the Magic Circle of a game ensures a safe place with boundaries in which the stimuli are controlled and limited. This means there is no external danger, or different rule-set, or expectations to consider.

Another means to ensure the game as a safe place concerns the epistemic framing developed by Shaffer (2006). In his research he describes that learning goes best when operating from a relevant professional epistemology. An epistemic frame is composed not only of knowledge and skills, but also upon values, attitude and identity. The benefit of using a Magic Circle and an epistemic frame in an educational situation for design-students, is that
possible aesthetic constraints and social - or even performative - pressure is ruled out. The pressure of performance takes place within the magic circle and within the rule-set of the game and the student is not judged outside of the game for quality or aesthetics of the work achieved within the game.

The design of rules and the way players accept or break them is a challenging matter for educators. Considering the student’s interest in cheating and the positive aspects of subversion, rule-breaking can be considered a game design practice (Salen & Zimmerman, 2004) that can expand the possibilities of the game.

Other than rule, the core elements of a game (McGonigal, 2012) are: a clear goal, arbitrary restrictions or unnecessary obstacles, a feedback system and voluntary participation. The goal in our field is connected to the improvement of knowledge and skills; the rules are the construct build to have an activity that is valid for learning at the time it is also rewarding; the obstacles are inherent to the context of the class; the feedback is given by the teacher and the players themselves and the voluntary participation is relative, as in a school situation all activities are usually provided by the lecturer.

2.2 Motivation

The discussion on voluntary participation is connected to the motivation of students. How to have their interest at a high level is one of the reasons to design and plan courses fully in coherence. In the search of good methods and activities, games can provide the necessary motivation to undertake complex matters. Following McGonigal (2012), a good game is a unique way of structuring experience and provoking positive emotion that, at the same time, inspires voluntary participation and hard work.

Voluntary participation implies an intrinsic motivated person and this is a questionable aspect in relation to educational situation. Floor (pers. comm 12.05.16) does not see extrinsic motivation as a problem. The challenge is to design a learning experience in such a way that the students becomes intrinsically motivated through experiencing or playing. On the one hand, the student can be seen as internally motivated, for she was determined to study applied Arts & design. On the other hand, the student did not specifically choose to be in this class following this specific topic; it’s the curriculum and the lecturer who decides what’s best for the student. The challenge in designing learning experiences then, is to start from the perspective of the student and to motivate the student for a certain topic at a certain time, in order to help them to further develop their talents (Floor, pers.
Ryan & Deci (2000, p.71) foresee this in their research on Self-determination theory, by posing the question on “... how individuals acquire the motivation to carry them out and how this motivation affects ongoing persistence ...?” In their research they not only confirm and stress on the three characteristics of SDT being the feeling of competence, autonomy & relatedness, they also point out that excessive control and non-optimal challenges undermine the motivation. Stimulating intrinsic motivation should therefore be designed starting from the perspective of the user. Floor uses the term user-centered design (pers. comm. 12.05.16).

With the students in mind, the challenge is to find their common ground and shared interests (Floor). Using epistemic framing and the Magic Circle in a learning experience enables the students options to find shared common grounds. Once in play, students are freed from factors that diminish the motivation; the student’s objectives are clear; the quality of their efforts is within the boundaries of the game and, most of all, the student receives full attention and is taken seriously by the other players (Hrehovcsík, Pers. comm. 09.03.16).

Walma van der Molen (2014) states that on the level of cognition the student has to feel some kind of added value. Next to the personal benefits the student gets from playing, she should find a clear form of joy and pleasure combined with a feeling of self-efficacy and control. In her article she defines a number of criteria to stimulate creativity in order to prosper talent. Even though her article is directed at teachers in primary education her proposals can be applied in all levels of education. Van der Molen proposes to offer the students open ended assignments with a high level of complexity and abstraction. This stimulates the curious and research-like attitude of students and provokes their reflective capacities.

Achieving learning outcomes, goes best when there is a deeper connection, meaning and motivation involved (Shaffer, 2006). The role of the parent or teacher in playing games is crucial. When playing without guidance or stimulation from a mentor/parent, the game might stay superficial. The imagination of children should be triggered. Likewise, the preparation of the mindset of the students by the teacher is a way of putting into context and provoking the lusory attitude or state of mind required to enter into the play of a game (Salen & Zimmerman, 2004).
2.3 Experiential Learning

Aristotle already mentioned in the Nicomachean Ethics⁸ “for the things we have to learn before we can do them, we learn by doing them”. Instead of memorising given data (old system), the focus should be on connecting variables, and collecting data yourself (Shaffer, 2006). Shaffer there, is in line with the constructivism⁹. Essential in the constructivist perspective is the student’s active involvement in collecting knowledge and gaining skills.

De Corte adds to this approach (2011, p.33) that students should have “... the ability to apply meaningfully learned knowledge and skills flexibly and creatively in a variety of contexts.” De Corte calls this ‘Adaptive Competence’ as he elaborates on the constructivist approach. Learning though, goes best when being occupied with a certain task that is neither too hard nor too easy to accomplish. Csikszentmihalyi (1996) describes this as a balance of challenge and confidence. A game is usually fun to do and changes the state of reality offering the student a different approach to learning.

Shaffer (2006) uses the term “hard fun” for tasks where concentration and iterative learning is needed to achieve certain outcomes. The fun comes in trying and achieving which motivates for more. A number of learning outcomes are clear through hands on practices: increased vocabulary in the discipline of the game’s topics; increased ability to accurately describe and discuss the topics addressed in the game, from different points of view; ability of recall the gained knowledge because it is much better embedded.

According to Kolb (1984), knowledge is continuously gained through both personal and environmental experiences. Kolb expounds that in order to gain genuine knowledge from an experience, the learner must have four abilities: being actively involved; being able to reflect on the experience; being able to conceptualize the reflections after the analysis; and exercising the new knowledge through decision making and problem solving. In designing a learning experience these four core values ought to be considered. Starting from the perspective of the user.

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2.4 Conscious competence

Throughout the studies the student should progress via conscious incompetence and conscious competence to (eventually) unconscious competence (Burch, 1970). As stated above, the basic knowledge of visual grammar is needed to be able to concoct design-elements as effective as possible in order to create a strong design and a powerful subliminal meaning. The professional (to be) should be able to make meaningful decisions, not only in terms of aesthetics, but also in terms of ideology connected to sexism, consumerism or any ideological communicative message. If students use visual design in coherent and effective ways, the reasoning and the control of meaning lacks in many cases. Thus, these students have unconscious incompetence. For young designers it is crucial to master the language of images and treat them as a full grown language (within the western european conventions in which this game is developed). Being not yet conscious about the possible layered meanings of certain image constructions, students can't consciously argument on the power of images, nor are they able to see their imprint. The power of directing meaning through images and through design is therefore not used - or at least not consciously used - resulting in a visual outcome that often does not correspond with the intended message. In order to prevent a low, trivial performance in visual expression, and prepare (future) professionals with solid skills in codification / decodification of visual communication an effective practice- based learning experience is needed; one that avoids the student's common urge to make 'beautiful' and 'worthy' works.

"The act of play is the act of interpretation. As players make their way through the game, representations shift and change" (Salen & Zimmerman, p.372). The meaning given to the act of playing is different for every participant, but it's always present because it's inherent to the mechanisms of play.

3. Interdisciplinary approach and Research methods

We have to distinguish two main stages to describe the broad actions undertaken to create and validate the educational game we named VLCg: The first stage took place in the context of a course on ludodidactics (course 2014-2015) and included the concept definition, the design process and the immediate measurement of the educational characteristics of the ludodidactic product. The second stage (course 2015-2016) implies the revision of this
product through:

- the literature and the theoretical definitions implied;
- the experience of two experts in the field of education and the field of game design;
- The iterative process of play-testing and re-adjusting the game after collecting results via the surveys and via the observational method. The observational method is used for the identification of attitudes during play.

The course on ludodidactics provided an excellent starting point to further dive into the extensive research done in this field. The combination with the field of education (and the psychology of education) created a broad perspective on playful learning. The personal interest in the two disciplines and the discovery of the vast possibilities of interdisciplinarity for educators was another reason to read and dive into the two fields for connecting concepts.

3.1 Population of the research

We solely concentrated on first years students of visual Arts Education, both Fine-Arts as well as Applied-Art studies. In order to find a solid, objective average of first years students in Applied-Arts & Design, three specific groups were defined.

At the first stage we, the developers, play-tested the game with other colleagues before any interaction with students from Image & Media Technology (IMT), that finally play-tested the game three times: two times by a group of 6 and one by a group of 20.

At the second stage one group of 14 students from IMT play-tested twice. The other two groups played once: Graphic Design students (6) and students from Photography department (18).

The number of students is the result of planning and possibility: when working with students the commitment is weak, resulting in the participation of some, but not of all the participants scheduled. On the other hand, having known and unknown students was a procedure to measure their commitment, attitude and objectivity when marking the game.

Situational factors considered when choosing the population were: the number of students in the class, the course level; the frequency and length of the sessions; the combination of theoretical and practical knowledge implied in the subject of the course; the prior

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11 Henceforth IMT. Image & Media technology, educates media designers and has its focus on medium independent short communicative narratives.
experiences and knowledge of the students, and the learning goals and expectatives about them as socially responsible professionals.

3.2 Stage 1: Concept, validation and results of the First Prototype

The motif of visual grammar and the mechanics of a cards game in which creation and discussion are the main activities melted into the concept of VLCg. Designing a game for the first time was challenging, but I adopted a practical attitude: the audience had to be my students or students at HKU, the equipment; the materials at hand, like a sand clock, tokens, paper. The main idea was to create a product using these elements and my skills as a designer, a teacher and now a researcher. It was needed to have a first experience on designing games that I could use, after validation, for my professional development. The objective in designing the game was to create a playful learning experience that could be produced with a small investment and would allow me to expand my curriculum and create a start-up on games for education.

After a broad search and several assumptions based upon various board games and their mechanics, ideas for the first version of the Visual Language Cards was developed. The first prototype of the VLCg was based upon elements and assumptions noted on the Playful Design Canvas (Renger, 2014).

The first prototype was playtested three times. Not all assumptions proved correct to validate the design. Activating the players worked well, especially in the first round where the players were challenged to create an artwork. Following classification of Caillois as taken from Salen and Zimmerman (2004), at the first stage of a set of cards was given by chance (Alea), which forced the players into a form of simulation (mimicry) because of their given role and mission. As soon as the players started their 15 minutes of creation, the ‘race against the clock’ helped pushing them into a thrill (Ilinx). This part of the game proved to be well developed. In the following rounds however, the gameplay collapsed. In the design of the game only competition (Agon) was supposed to be the driving force in round 2. The role and mission the players assumed in round 1 were not continued in the following rounds as was the time constraint. In this prototype of the VLCg, preventing players from endless debate proved to be a complex aspect. Since the descriptions of the cards did not provide a right or wrong answer, debating easily occurred. Because of endless debates only the fanatic and devoted students continued playing. While argumenting and commenting, players turned into students again and the magic circle became a normal classroom once more.
3.3 Stage 2: Evolution of the prototype

The time passed refreshed ideas and gave new perspectives, when implementing the results of the first stage. The challenge to improve the previous results helped having a hypotheses and a main question. To get more in depth into aspects of game design, qualitative research was done with experts on serious games and playful learning. Firstly I interviewed Micah Hrehovcsik, educator, game designer and researcher at Innovation Studio\textsuperscript{12}. His vast knowledge, research capacities and practical approach on applied game design provided a critical and constructive view on the design of the VLCg. The open interview took place in March 2016. The second expert talk was held with Niels Floor, innovative developer of learning experiences and founder of Shapers, on May 2016\textsuperscript{13}. His user-centered view on the renewal of education proved very useful and his expertise brought helpful additions on motivation a.o.

The play tests took place between April and June 2016. In order to measure the outcomes, both Participating Observation and Questionnaires were used for obtaining qualitative and quantitative data. The results were then interpreted and combined with the theoretic models discussed previously.

Each iteration contributed to a more profound immersion and constant observation to play. The magic circle had to become a real magic circle and not a classroom. The epistemic framing had to be expanded and the lusory attitude provided. All findings contributed to the following adaption of the game. Many elements evolved: play ergonomics, one table, the board, the tokens, after playing again myself and after each iteration.

3.4 The iterative process

Set-up: In one of the first prototypes of version 1, the presence of visual examples on cards only stimulated imitation of the examples given. Since an important goal was to have the students creating with as little judgment or influence as possible, the cards were made purely textual in their design. Results from version 1 were used as a starting point. First step of improving the prototype considered the content of the cards as well as the rule set of the second and third round. The balance between competition and collaboration stayed present but - bridging the first and second part - a time-constraint mechanism was used once more.

\textsuperscript{12} See appendix page 17 for notes on the open interview with Micah Hrehovcsik
\textsuperscript{13} See appendix page 19 for a transcript of the interview with Niels Floor.
The rules changed in the sense that players immediately placed their own cards open on the table in a way that showed whether they did or did not use them. Now players were not guessing cards anymore, but instead were validating or debunking cards of others. In order to improve competition and challenge each team could validate and debunk other’s cards. The point system on the cards itself was adjusted accordingly. Confirming cards of others also gives points to the creators of the work being discussed with the effect that the element of competition is also partly a collaborative element.

Iteration 2.1: Another improvement considered the new card-design. The objective was to make the design inherent to the use of the cards. In this iteration the cards turned more distinctive and the possibilities of placing them were indicated by the design. In addition to this, a game board (the gallery-board) was created. Again this was done to give players visual directions in how to play.

Players used their one minute of argumenting for the first time, while all other players politely waited with their judgment.

Iteration 2.2: The cards were translated into dutch (version 1.0 to 2.1 being in English). English proved too complex for a fair number of students. To keep clear track of the score, counting was done after each round. This determined who could start in Round 3.

To build more tension in the approval or disapproval of arguments players now had to decide immediately after the argument was given.

Iteration 2.3: For the third iteration rules concerning the pointing system and the reaction/response options of other players were changed. Now all players were allowed to vote and only when reaching a majority argumenting was approved.

Iteration 2.4: A final adjustment was made in rule-description of the game. While concentrated reading proves difficult for most student, the rules are now translated into short instructional infographic videos, each describing one round of the game.
4. Results

4.1 Results from the surveys to the players

A first survey was prepared and planned at the first stage, but we didn’t get any answers from the students that played. This ‘failure’ marked the preparation of stage two. Measurement through questioning the participants is proved to be a key method. We had to re-think the survey itself (making it more clear and short while connecting every question to the questions in this research) and the way it should be presented to the players to prepare the right state of mind, so they would feel they had a voice to give opinion in an important matter that would be used for implementing the game. We were partly successful: of the four play-tests, only number one was fully completed, having all 14 participants answering the survey; they were my own students. Play-test number four was done with 6 students of which 4 students answered. From the other two play-test, with a total number of 24 participants being in other teacher’s courses, only 6 responded. In order to have a clear picture of the data given by players, a full description of the surveys are found in the appendix.

The results showed that eleven participants enjoyed and gave positive feedback about the game as a learning tool, one was enthusiastic about it and only two were not very interested. Evidence of the solidness of the game was clear through some expressions like: “it was fun to force ourselves making quick works based on certain rules”, “By using terms I didn’t know”, “Because you have to discuss with others in a short time you gain knowledge”, “Fun, it was an enthusiastic competitive way to work”, “A better way to learn by playing than just learning from a book or presentation”.

On the question: would you recommend this game as a tool for learning and being evaluated, 64,5% (9 students) answered yes, absolutely; 21,4% (5 students) didn’t know; and 14,3% (2 students) marked other.

When questioned more generally about the easiness or struggle to use the cards, there was a huge variety of responses (more than in any other request): marks grow from one to five leaving only zero out of the question. Seven contributors marked it with a three (middle of the scale) being this the most common answer. The finding is that the game is not obvious neither simple to play, confirming the balance in the design between playing and acquiring knowledge and skills.

Motivation for playing was connected 8 times to the fact that it’s part of a class or proposed by the teacher, 3 times with winning, and 3 times with the fact that it was a game. These
statements can be translated as an approval of the game in its ludodidactic objective.
The repeated comment about the cards in the general comments was that it if would have been in dutch they would have understood better. This conclusion was implemented in the next play-test (2.2) for which the game was translated to dutch.

4.2 Results from the Participating Observation
The participatory observation of the teacher leaded to the same impression that the language -english-, was too difficult for some of the participants, as they were checking words online and asking about meaning.
An important observation concerned the rule-set and the context. The rules were not read that well, the amount of text was too much and a decrease in concentration was noted. The context of the game needed to be explained orally and only after this explanation students were able to argument accurate and well. Some groups even debated on the cards as they found argumenting interesting.
When everyone was jury (all players voting), everyone had an active role. This resulted in all players being fully emerged into the game.
The quality of the art-works varied. Depending on their field of studies students were either photographing or using software for the creation of their images, except for the graphic design students: they all worked analogue... either creating a drawing or a collage. Equal with all students was the fact that there was no qualitative remorse nor judgmental issue on the works created: the quality was irrelevant as long as it stayed within the game.

5. Conclusions
Answering the main question “What is the improvement of using game design principles in helping students in Arts Education to achieve conscious competence in reading and applying the basics of visual language?” is conclusive; during play-tests, the students were progressively surprised showing a sparkling realisation: “there is a lot to learn about visual language and it is interesting!” The activity was thrilling due to the game characteristics that were well implemented; this special tone led to the positive discovery of the different meanings, uses and applications of visual language. These findings don’t mean that the achievement of conscious competence was complete; only by embedding the VLCg in the sequence of a course, the students will gain full competence. As a main conclusion then, we can affirm
that the improvement in helping students achieve conscious competence of visual language is that they benefit from a proactive attitude towards learning.

5.1 Game design principles contributing to learning

Looking at the first two sub-questions directed at game design principles, the results show that the magic circle stays intact and the use of epistemic framing proves effective. The design of the board provides information and players focus on their mission of gaining points and validating or debunking the elements that other groups did or did not use. The board limits the amount of stimuli and the players concentrate on their argumentation and their role as experts and judges. In playtest 2.1 it immediately became clear that these limitations work well and push the students to fanatically comment on each other’s work.

In the first round of the VLCg players also entered a Magic Circle, albeit a different one. Round one uses both rule-set and epistemic framing to create a physical magic Circle of the school building. The roles in the game are similar to the student’s future profession but now in the form of an enlarged ridiculed stereotype. This helps to approach creation lightly and prevents them from having aesthetic preconceptions related to personal opinion.

Almost all students said that it was exciting and fun to do. Being out of their normal classroom situation helped to raise motivation and become active. As one student mentioned in the survey: “I thought of it as a nice addition, because; it was not an assignment; it was playful; and there was no judgement attached”.

The self-censorship and judgemental attitude that often hinders student’s development in school-assigments, was absent when playing the VLCg. All play-tests showed that none of the students made aesthetic-orientated remarks on the quality of the art works and that all worked with joy and within the timeframe given. This supports the conclusion that the art works made within the boundaries of the game are freed from performance-pressure based upon aesthetics and ‘professional standards’. The pressure of (aesthetic) performance - that often occurs in result oriented assignments - can thus be avoided by using ludodidactics in the design of a course. I consider this an important conclusion that gives a strong argument in favour of playful learning experiences.

5.2 Student’s active roles and motivation

On the question on how students can be motivated to learn, the results show that adopting game design principles proof helpful. Several students asked for the card deck after playing so that they could use them in their other assignments or personal projects. The survey too supported the idea of a motivational shift from extrinsic towards an intrinsic motivation.

Inspired by the Playful Design Canvas (Renger, 2014) I implemented the use of active verbs
Visual Literacy through playful learning experiences

in the questionnaire to measure whether the game design principles provoke the desired behaviour: creating, describing, recognising, explaining, discussing, collaborating were finally the most selected. These results combined with the observations confirmed that players can indeed maintain an active role. They did not feel like being in a school situation and their minds were so much into playing, that they did not notice they were learning about visual language; the knowledge transfer was implicitly present.

The role of the teacher also proved to be influential. Having a teacher present gives context and relevance and it is a major aspect when preparing the right attitude or mind-set for playing.

5.3 Achieving conscious competence
Concerning the question about conscious competence, the conclusion is decisive. Students realised that they created an art-work in a very limited time slot. They also recognised that the concepts on the cards were unfamiliar, but playing ended in understanding them. When having to explain and argument they discovered they were progressively able to connect ideas. This observation was strongly confirmed by Play-test 2.3 in which students played the game for the second time. The conclusion is that students indeed develop their competence while playing as supported by the results of Stieltjes (2015). In his research project a test-group determined a baseline. Through later tests he showed how the students improved their competences. In observing my students, similar results were noted. Looking back at the 2nd year students - those who play tested version 1 last year - an increase in knowledge is seen. In contrast to previous years, a fair number refers to visual elements when talking about their designs. Expectations are that the students who play tested this course, will show an even stronger awareness on visual language.

6. Discussion & Recommendations

6.1 Embedding the VLCg
The VLCg proves that game design principles can very well be used for the development of learning experiences in which students are dedicated to active play. By using the game design potential in an educational context, students work in a Constructive, self-regulated, situated and collaborative way. The construct of the game enables them to generate discussable outcomes and to name the -sometimes debatable - interpretations of visuals. However for a long lasting knowledge transfer this game should ideally be a part of a course
in which the cards themselves can be used in different contexts and assignments. This thought is supported in the interview with Niels floor in which he says: “It’s all about what comes before and after . . . so that they realise and reflect on the things learned.” (pers.comm. Niels Floor, 12.05.16). During Playtest 2.2 ideas for developing a mutual course arose in which the VLCg could be embedded. Coming semester I will collaborate with a research-lecturer in order to research the effects of a combined course on visual Language.

6.2 Dark Play
One of the epistemic frames concerned the role of the amateur. In contrast to the connotation, this card is a difficult one to play; the goal of the amateur is to obstruct by giving false arguments and gain as few points as possible. Even though the amateur card was deliberately given to some groups it could not be specifically tested. It was interesting to discover how students felt lost when they had to behave against the standard rules. Suddenly, the lack of a safe net appeared. They knew all others were playing in the correct way, but they were doubtful of how to perform themselves. The point system showed unexpected results: a number of times the amateurs scored the highest points.

As mentioned in this paper, dark play is a challenging matter for educators considering the student’s soft spot for rule-breaking. More experiments about it can expand the possibilities of any game used in education.

6.3 Other uses of Visual Language Cards

The game can be played without the first part present: instead of creating in part one, students can get a number of artworks so that they can immediately start the analysis and argumentation part of the game. Instead of learning through reflection on their own creation, similar game characteristics can be used to discuss existing works of art. The artworks used can vary from fine arts to visual expression on social media. This opens the possibility to develop a course for other target groups.

The Visual Language Cards as a design method. The cards can be used as a toolbox; a design method for visual designers. This enables the student or the professional to use the cards over a longer period in their creative processes.

The deck can be expanded with new cards presenting other elements on visual language. In visual literacy also the field of semiotics and rhetorics can be addressed.
7. Reflective

Preparing research in this way, proved successful and was a joy to do. Once occupied, the mixture of the field of education, it’s psychology and the field of game theory offers so many interesting approaches. The Results are promising and it is rewarding to see how students are motivated to play (and learn).

Creating this educational product helps profiling myself as a creative entrepreneur within the academic field. The PDC (Renger, 2014) was used - not only to determine constraints for the student or target group but also - for defining publication options of the game. Development started from a practical productional starting point. Everything is published under a Creative Commons 4.0 license with the goal of sharing this product with a large audience in the field of education while positioning myself and my institute as experts on ludodidactic education & design methods. The next step is to actually publish the VLCg as a game and the Visual Language Cards as a independently usable design method.

In terms of pedagogics this product corresponds with some personal core values of how we should approach education, which are: the believe that a balance between collaboration and competition is effective; learning goes best when practice is present, and; positive experiences work best for enhancing motivation (Deci & Ryan, 2000 again). From the results of these starting points and factors the VLCg emerged and it can be marked bearing my signature as an educator in Arts.

While doing this research I encountered so much more of interest to my field of education, and every now and then it was difficult to set related topics aside. However I feel confident in concluding on a complete research-project. The result is fantastic and the taste is ... of developing more learning experiences. Preferably playful ones.
8. References

8.1 Literature & Publications:


8.2 Online


8.3 Experts

Willem Jan Renger. Head of the Innovation Studio HKU.
Evert Hoogendoorn. Strategist at IJsfontein, Lecturer New Literacy and Ludodidactics.
Micah Hrehovcsik. Senior lecturer, game design-researcher at Innovation studio HKU.
Niels Floor. Founder of shapers, developer of the learning Experience Canvas.

8.4 Research on Games

Cluedo. First published in 1949, Waddingtons Parker Brothers.
A competitive board game based upon deduction.

A cards / board game based upon interpretation of cards and hints.

A cooperative cards game in which the players collaborate to create a firework via deduction and Hinting on each other's cards

A co-op storytelling game with elements of competition present.

Tajemnicze Domostwo / Mysterium. 2013, Portal Games.
A cooperative board game in which player must hint (the ghost) and interpret (the mediums) on abstract illustrations.

Competitive Card game in which the player makes connections between cards through arguments. Used as an exam-game during the course on New literacy.
Appendix

a.1 Contents of the Visual Language Cards

a.1.1 GESTALT CARDS

FIGURE – GROUND. Elements seem to be either the Figure or the Background depending on contrast, size, color, a.o. The smallest element in the image is often seen as Figure.
VOOR – ACHTERGROND. Sommige elementen in een het beeld hebben een prominente rol (de figure), waardoor het andere automatisch naar de achtergrond gedrongen wordt (de ground). De Figure-ground kan - afhankelijk van waar de kijker de aandacht legt - verwisselen.

SIMPLICITY. Elements are Clear and ordered. And not more than needed are present. All is in its most simple form.
EENVOUD. Elementen worden het best gezien in hun meest simpele vorm. eenvoud geeft ruimte. Hoe minder elementen en hoe eenvoudiger, hoe minder er ontcijferd moet worden. ‘Less is more’

PROXIMITY. Elements that are close together are seen as a group even if their sizes, shapes and colors differ. Especially when the elements are closer to each other than to other parts of the image.
NABIJHEID. Elementen die dicht bij elkaar geplaatst of geclusterd zijn, worden als groepen gezien.

SIMILARITY. Elements that look alike and placed in relation to each other are perceived as being a group or form. When similarity occurs, an object can be emphasised if it is dissimilar to the others.
GELIJKHEID/ OVEREENKOMST. Elementen die sterk op elkaar lijken worden als een groep gezien. Zodra elementen te veel van elkaar verschillen worden ze als aparte beeldelementen ervaren.

LAW OF CONTINUITY Continuation occurs when the eye is urged to move via one element and continue to another element. The (hidden) alignment of elements provokes continuity.
CONTINUITEIT. Wanneer elementen in een (denkbeeldige) doorgaande lijn geplaatst zijn, worden ze als groep gezien.
ENCLOSURE. Elements that are bordered or are present within an imaginary border are perceived as one group.
INGESLOTENHEID. Elementen die door (suggestieve) lijnen worden omheind vormen een groep.

CLOSURE. Our brains matches or fills the gaps and completes the image. The form is not actually present is mentally completed. Often the total is recognised before reading the separate elements.
INGEVULDE HIAAT. Dit is de neiging om element(en) denkbeeldig aan te vullen tot een herkenbaar figuur of symbool: onvolledige waarneming tot een interpreteerbaar geheel maken.

COMMON FATE The eye is drawn to objects moving to the same direction. When moving in the same direction elements form a group.
GELIJKE ACHTERGOND. Wanneer elementen in een gelijke achtergrond staan worden ze als groep gezien. Dit overtreft zelfs de wet van gelijkheid en nabijheid in kracht.

a.1.2 COMPOSITION CARDS

SYMMETRICAL. A symmetrical composition is made up of similar parts facing each other or mirroring around an axis. It often depicts unity and balance.
SYMMETRISCH. Een symmetrische compositie heeft gelijke - of gelijkwaardige - delen aan weerszijden van een denkbeeldige as die verticaal door het midden van het beeld loopt.

ASYMMETRICAL. No mirror imagery. This composition has parts which fail to correspond to one another in shape, size, or arrangement. The result is often an emphasis on one side of the image.
ASYMMETRISCH. Er is geen gelijkwaardige spiegeling aan weerszijden van een denkbeeldige verticale as. Aan een van de twee zijden ligt een grotere nadruk.

HORIZONTAL. The main lines or elements are orientated parallel to the line of the horizon. It can give the impression that there is a movement from left to right.
HORIZONTAAL. De belangrijkste (denkbeeldige) lijnen lopen horizontaal door het beeld heen. Kan een suggestie van zijwaartse beweging geven.

VERTICAL. All lines are placed with their longest side in a vertical direction, perpendicular to the horizon. It is considered an elegant composition.
VERTICAAL. De belangrijkste elementen zijn zo opgesteld dat er (denkbeeldige) lijnen verticaal over het beeld lopen.
**DIAGONAL.** A clear division of a diagonal axis crossing two opposite corners. It's often dynamic and it visualises movement.

**DIAGONAAL.** Verdeling van elementen of (denkbeeldige) lijnen die schuin door het beeld lopen. De belangrijkste compositielijnen zijn scheef en zorgen vaak voor een dynamisch, beweeglijk effect.

**TRIANGULAR.** Made up of lines that are arranged according to a visible or invisible triangle shape. It can create a strong effect on the viewer, ranging from serenity and stability to dramatic instability and aggression.

**PIRAMIDAAL.** De belangrijkste elementen staan in de vorm van - of in lijn met - een (denkbeeldige) driehoek. Afhankelijk van de vorm en plaatsing kan de driehoek voor een statisch of juist zeer dynamisch gevoel zorgen.

**CENTRAL.**

**CENTRAAL.** Een compositie is gebaseerd op een ordening vanuit het centrum, of van de zijkanten naar het midden toe. De aandachtspunt ligt het snijpunt van een verticale en horizontale midden as.

**OVER-ALL.**

**OVER-ALL.** Er is geen orde van belangrijkheid; de elementen zijn van gelijke waarde. Zo ontstaat er een gelijkmatige, patroonachtige verdeling over het vlak die door lijkt te lopen buiten het de grenzen van het beeld.

### a.1.3 CHARACTERISTIC CARDS

**PILING.** Vertically placed elements into the shape of a column creating a mass. Things laid or lying one on top of another.

**STAPELEND.** Een ophoping met een bepaalde ordening waarbij de elementen op elkaar komen te liggen. De elementen zijn niet persé hetzelfde, maar zijn wel op elkaar geplaatst.

**REPEATING.** Iteration or replication of elements, ideas or principles. Often creates rhythm. To occur again in the same way or form.

**HERHALEND.** Het steeds opnieuw voorkomen van hetzelfde element of principe. Herhalen kan verticaal zoals stapelen, maar ook horizontaal; Herhaling zorgt vaak voor een ritme.

**SUPPORTING.** An element ensures that another element will not fall over due to gravity. To bolster up / to hold / to reinforce.

**STEUNEND.** Zorgen dat iets niet omvalt. Ergens tegen aan rusten. Er is sprake van
zhwaartekracht, vooral zijwaarts. Een element staat niet op zichzelf maar helpt een ander element om niet te vallen.

HANGING Element(s) being sustained vertically to the ground with the lower part dangling free, daring the gravity.

HANGEND. Een element dat los van de grond bevestigd is aan een ander element zodat het optisch niet naar beneden valt. Vast klevend aan iets anders, maar onderhevig aan zwaartekracht.

SCATTERING. Elements placed, scattered or distributed over a large area. Disseminated objects, forms or colors. Spreading gives a feeling of randomness.

STROOIEND. Spreiden of verspreiden in willekeurige vorm; Op verschillende plaatsen gooien of uitgieten. Strooien geeft vaak een gevoel van willekeur in het beeld. uitspreiden, uitstorten; werpen.

ASCENDING. Elements going up, rising or moving towards the sky. Seemingly defying the laws of gravity To lift / moving upwards

OPSTIJGEND. Element(en) lijken los van de bodem te komen en omhoog te gaan. Omhooggaand; Verheffend; Klimmend.

WRINKLING. The form loses its orignal shape. Ridges formed by the shrinking or contraction of a smooth substance.

KREUKELEN. De eigenlijke vorm van in het beeld is verloren doordat er kreukels, plooien, deuken inzitten. Verfrommelen; rimpelen, plooiien.

a.1.4 PRINCIPLES CARDS

BALANCE. Stability produced by even distribution; aesthetically pleasing integration of elements; physical equilibrium of the image.

BALANS. Stabiliteit en rust door een gelijkwaardige verspreiding; verdeling; of zeggingskracht van de beeldelementen.

CONTRAST. Strong differences between two or more elements showing dissimilar qualities: black and white, large and short, thin and thick.

CONTRAST. Er zijn sterke verschillen in beeldelementen aanwezig: het één zet zich af tegen het ander. Vaak zijn contrasterende delen ook tegenpolen.

UNITY. A way of combining the parts so that they seem to belong together, forming a coherent whole.
EENHEID. Alle elementen samen vormen een coherent geheel. Ze passen als geheel bij elkaar door bijvoorbeeld vorm of kleur.

EMPHASIS. Force or intensity that gives impressiveness or importance to something in the image. There is no counter element present.

NADRUK. Een element - of groep - waar de aandacht sterker naar toegaat dan naar andere delen van het beeld. Nadruk hoeft geen tegenpool te hebben of groot te zijn in omvang.

DETAIL. Small and subordinated elements of a work of art. Extended treatment to particular elements.

DETAIL. Delen van het beeld waarin kleine bijzonderheden aanwezig zijn. Elementen die niet direct opvallen maar wel finsse hebben ten opzichte van het geheel.

PERSPECTIVE. Illusion of depth and distance given to the eye through techniques like converged parallel lines.

PERSPECTIEF. De suggestie van dieptewerking in het beeld. Door plaatsing van elementen en (denkbeeldige) lijnen ontstaat een vergezicht of verschiet.

VARIETY. Variety is achieved through using the diversity, change and appearances of elements. Using different line types, colors, textures, shapes.

VARIETEIT. Elementen in het totaal zorgen voor grote afwisseling. Dit kan door vorm, kleur, textuur, structuur, plaatsing.

PROPORTION. Refers to the relationship of certain elements to the whole and to each other.

VERHOUDING. De mate waarin elementen van elkaar verschillen en de verbanden die daaruit onstaan. Verschil in grootte of plaatsing.

a.1.5 THE MISSION CARDS

The Accurate Artisans (TAA)

TAA like to be exact and precise. Often considered kitsch TAA fully design and compose images in the most aesthetically pleasing ways. Today TAA are Showing the glory and greatness of the person or the object. Syn: low-brow

TAA zijn precies, maar vanwege hun zucht naar esthetiek wordt hun werk vaak gezien als kitsch. Nu zijn de TAA bezig om de glorie en grootsheid van hun onderwerp (object/persoon) in beeld te brengen.

The Famous Virtuosos (TFV)
TFV are proud of their success but they have to keep being in the front line. Indepth & sophisticated but not always understood by the masses. Veracious TFV are now creating press images for a new band.

TFV zijn ietwat pretentieus en willen altijd als eigenzinnig intellectueel gezien worden. Ze zijn trots op hun succes bij het grote publiek, maar worden ook wel als cliche beschouwd. Vandaag maken TFV een nieuw album-cover voor een band.

The Radical Adepts (TRA)
TRA always try to be on the edge. TRA are well known for their provocative artworks, often criticised for being superficial. Today they create a dramatic, coarse and stereotyping work.

Syn: coarse / rude / offensive.

TRA proberen altijd avant-gardistisch werk te leveren. Ze staan bekend om hun provocatieve beelden, die soms vergezocht zijn. TRA zijn bezig met een stereotyperende campagne vol dramatiek.

The Classical Connoisseurs (TCC)
TCC like to get the message through. Being conservatives they always play it safe and love to work on public campaigns for large audiences. // As always their work is persuasive, extremely persuasive.

TCC staan bekend om hun conservatieve beelden. Zij spelen altijd op veilig en houden ervan om voor grote publieke campagnes te werken. Zoals altijd moet de boodschap overtuigen.

The Engaged Artists (TEA)
TEA are the best in creating disturbing images for campaigns to change perceptions and values. It shows the truth of things and provokes reflection. TEA Provide compelling messages. Arouse awareness. Their audience feels touched.

TEA zijn het best in de creatie van andere benaderingen en perspectieven. Ze willen hun waarheid laten zien en aanzetten tot reflectie. Hun doel is het publiek te inzicht te geven met hun aangrijpende beelden.

The Disastrous Amateurs (TDA)
TDA are not conscious of their lack of skills so they perform terribly in gaining points. Their work however seems to be made by professionals at first glance, but their cards don’t match. Make it fun; Everybody thinks it’s the work of a professional but no one can place your cards right.

Het werk van TDA lijkt gemaakt door professionals, maar geen kaart past bij het werk. TDA zijn verschrikkelijk slecht in het behalen van punten, echter niemand mag raden dat je een amateur bent. Blijf je onder de 12 punten dan win je het spel!
a.1.6 The visual Language Cards design.
a.1.6 game set up
a.2. Rules of the VLCg (UK)

Visual Language Cards Game

Goal of the game
Make a fantastic artwork out of random cards in an amazingly short time-frame and have the other groups authenticate or argue your cards (and vice versa; validate or debunk the cards of others). You'll be operating as a super-famous or super-serious expert with the goal of creating the exhibition’s masterpiece.

Each team is given a mission card that contains the Expert Role you are operating from and four cards that contain descriptions of visual elements. Use as many of the cards as you possibly can in your creation and use any technique (draw, photography, paint, collage...).

Watch out! One of the six expert-cards has a contrasting objective: The Disastrous Amateurs’ mission is to make sure that no one will guess their Visual Language Cards right. They will win the game if they gain less than 12 points.

The teams have to describe each other’s artwork with the cards on the exhibition board and try to place the extra cards to gain as many points as possible. Each team has 12 tokens to place cards on the board...
place on cards in order to gain the value of that card.

Amateurs beware! Your role is a special one: you must make sure that none of the other experts recognises you (because that will give you points and thus exposure). Your goal is that the judging group will not agree with you therefore all the arguments you give must be invalid.

The game consists of:
4 Gallery boards; 4 Gallery Standards; 4 sets of 10 tokens ; 1 hour-glass; one deck of Cards
The deck of Cards contains:
06 Mission Cards (who): 4 points
08 Composition Cards: 4 points / 2 points
08 Image Principle Cards: 8 points / 4 points
08 Characteristic Cards: 8 points / 4 points
08 Gestalt Cards: 12 points / 6 points

a.2.2 How to play

Number of players: 3 - 8.
In order to play you need at least 3 teams. Ideally the game is played by 3 or 4 teams, each team being 2 players. You can also play with 3 or 4 single players.

Round 1, the Creation
1: Make teams (one or two persons).
2: Cards are shuffled.
Each team gets 5 cards randomly; 1 Composition card; 1 Principle card; 1 Characteristic Card; 1 Gestalt Card and 1 mission card. The mission card is secret.

3: Each team has 20 minutes to create an artwork by trying to implement as many of the cards as possible. And as clear as possible. Don’t worry if one (or some) turn out to be impossible; later, you may place them upside down on the gallery board.

4: Before the 20 minutes are over print your group’s artwork and bring it to the Gallery Board. Then place your implemented cards straight up on the board. The cards you didn’t use are placed upside down. The mission card is turned on the backside (closed), so the others can NOT see who you are.
The team that finishes first with creating and printing is the first to play on round 2.

Round 2, the Exhibition
1: Use the tokens and the hourglass. Each team gets the turn to act as the reviewing team.
As the reviewing team you have one minute for validating or debunking cards of the next team (on the right hand side) by giving a clear argument per card. The team on the left hand side immediately acts as the jury: thumbs up if the argument is valid, thumbs down if it’s false (no reasoning or debating for the jury-team). If the jury-team agrees with the argument you may leave your token and earn points. If the jury gives you a thumbs-down you do not gain points and you take your token back. Try to argument on as many cards as possible within your minute.

A validated - straight up or upside down - card gets your token: the top left value of the card is for the creating team, the top-right value is for the argumenting team.

A debunked card is turned on the backside and can’t be played anymore: the reviewing team places their token and receives the value on the top right.

! Not Reasoning: If a group is not giving an argument and instead just says “This is XX or this is not XX” without saying WHY, and the judging group agrees, then the group that owns the work may object with “No reasoning!” and the card stays with them.

! Not agreeing: When playing with 4 teams (two jury teams), if the 2 teams being jury don’t agree if right or wrong, the points stay with the owners of that card.

! Cards with a token on them are locked.

Mind you: The disastrous Amateurs. This team has to play as if they were professionals, but actually, everything they say is just not right. They use fallacies for explaining the cards.

2: After your minute passed, you may place one or multiple tokens on the mission squares of the board, to guess which experts created the artwork (You might want to save some tokens for Round 3).

Round 3, the Finissage

1: The extra cards are shuffled and every team randomly gets the same number of cards. Now each team has another minute to place the cards on any of the art-works (including your own) and explain them with an argument. If you find a connection between an image and a card, place it straight up on that board with a token. If you can’t find any connection you can still place the cards (upside down) on the boards; put your token and explain why the image does not contain that element. Good or bad reasoning will be judged by the team being the jury.

! Moving cards: Any card without a token can still be used by any other group and placed in
another work; this action diminishes the points of the group who owned the card in round one and two.

When all teams have finished their second minute of argumenting they can put their remaining tokens on one of the boards to still guess who the authors are and get points if they guess right.

2. Each team turns the mission card face up, to show which expert role they played.

3. Determine the winning team!
Now points can be counted following the values of the cards to see who is the winner.

! The Mission cards have a value of 4. Each correctly placed token equals 4 points. Remember you may place multiple tokens at a mission square on the game board.
The card’s value on the TOP-LEFT side in the “Exhibition Row” is for the creating team.

! The value on the TOP-RIGHT side in both the “Exhibition Row” & the “Finissage Row” go to the team who placed a token on the card.
a.3. Playful Design Canvas, HKU

The Playful design Canvas used for the VLCg
a.4. Personal Communication

a.4.1 Interview Micah Hrehovcsik
Senior Lecturer, Game-designer and researcher at Innovation Studio.
Utrecht, 09 March 2016.

Notes on Expert view on game-design and game mechanics in reply to a brief explanation of the VLCg product:

MH: Thinking of temperature in the game. Students want to work as designers. .. the time pressure works well in order to raise their temperature.
The challenge is to develop activities that literally center in on your abilities of a human being ... in that specific context.

MH: What you are testing as a player is your abilities to react in an immersive situation. The fact that video-games are so popular is that several fields merge together: sound, movement, narratives etc.

MH: everybody could come up with games, since everyone plays.

LV: here I see similarity with the context of this game ... everyone is a designer.

MH: in games this happens a lot. When approaching an applied game, you do not have these biases. You just look at the theory ... mechanics etc
You start from the elements that you want to implement...deriving from your learning outcomes.
The question is .. what do I want to achieve?

MH: you use the canvas nicely! For your first part of the game it works well. For the second part .. the analysis part: The drop of temperature. To me it is not so much about the temp. It’s also about their goal, and consequently their role in the game.
How can you give players a constant role? Here is the real question. Waiting for your turn does not do the job.
Can you create an impact as a player, this could be providing the challenge and task that will raise the temperature. This might be done with a deck for each player.

LV: besides productional issues, this challenge is what i tried to achieve in version 1. There was too much attention on searching for cards, and argumenting between the few fanatics would go frantic, but the rest of the players would doze off. In the new prototype i try to prevent discussion... it’s more on impression.
MH: so you make it into a group game, in which roles are changing and are more active. What you could do is give them the feeling that what your players created is valued... can they achieve what they wanted to achieve? And even more... did they implement their cards in the works, and how is this visible for others? Another design question is giving the creators also a function. Also teams could have chips/tokens which they can place on the cards... like valuing. Or like buttons. This way each student can be active at the same time. It becomes a visible Using boards could help in structuring the game play.

LV: I am actually designing a board right now on which the cards can be placed.

Variation of cards
MH: the first time it might feel like an assignment .. players do not know the randomness of the given cards. As a game tool ... it’s the time and epistemic framing it is a real game.

Maybe you can expand the game.. - Or at least the cards - over a longer course... multiple sessions.

MH: Using the canvas gives you a framework as designer. You can now also compare your setup and prototype with others.

a.4.2 Interview Niels Floor
(in dutch)
ontwerper van learning experience canvas en oprichter van shapers.
12 mei 2016, Utrecht. Lenno Verhoog.
Transcript.

00:01:00
LV: Uit de playtest kwam naar voren dat veel van mijn eigen studenten aan gaven dat de motivatie om te spelen vooral kwam doordat ik het ze vroeg, niet omdat ze persee wilden spelen.

NF: Daar ontkom je niet aan. Je zult er altijd mee te maken hebben in een onderwijs situatie, dat leerlingen iets doen omdat het moet. De kunst is om iets te ontwerpen waardoor ze gemotiveerd raken. -Misschien is het beginpunt wel een verplichting, maar hoe zorg ik ervoor dat ze daarna intrinsiek gemotiveerd raken. Daar ligt de uitdaging.

Dat heeft er voor al mee te maken door te begrijpen wie je tegenover je hebt. Bedenken:
waar wordt de leerling blij van. Als het gaat over het ontwerpen van leerervaringen, dan gaat het over human centered design.

00:02:18
NF: Je kijkt naar wat de leerling leuk vindt of wat hem aanspreekt. Dat kan op heel veel manieren. Een van de belangrijkste dingen is dat je je interesseert voor de doelgroep. Dat is iets wat in standaard onderwijs vaak ontbreekt.

00:02:35
LV: Er wordt teveel vanuit het curriculum gedacht?
00:02:38
NF: er wordt vanuit de inhoud gedacht, gedacht vanuit wat er gedaan moet worden. Jij gaat er als leerling langs alsof je in een fabriek zit.
In een onderwijs situation kan het startpunt wel ‘het moeten’ zijn, maar wat gebeurt er daarna … , dat is belangrijk.

00:03:06
NF: De opmerking van een leerling “ ik moest het doen, maar ik vond het wel supertof” zou ik genoegen meenemen. Je kunt er weinig aan doen als de initiele motivatie extern is.

LV: om een leerproces op te starten … als nulpunt bedoel je?

NF:Als je daarna een vorm aanbiedt die ruimte geeft om iets met je eigen motivatie te doen . . . - Ik denk dat dat een van de redenen is dat spel zo een populaire vorm is; het motiveert en enthousiasmeert - . . . zolang zo een leerling het gevoel heeft dit past bij mij, het gaat over mij, en ik vind het leuk om te doen, dan ben je goed bezig.

00:04:04
NF: Je kunt het onderwijssysteem niet zomaar veranderen. Maar… als jij iets maakt waarbij ze binnen de lessituatie plezier hebben en zich serieus genomen voelen en zich begrepen voelen, en denken “ cool hier wil ik iets mee” - zodat ze ook buiten de school er iets mee gaan doen, dan ben je goed bezig.

LV: dit lijkt heel moeilijk omdat niet iedere leerling hetzelfde is . . .

NF: Dat klopt, Je gaat in eerste instantie op zoek naar wat de leerlingen verbindt, Je gaat kijken naar wat niet uniek aan ze is. Welke interesse delen ze, wat maakt ze tot groep. En dan ga je kijken naar hoe je dit kunt toepassen op subgroepen, bijvoorbeeld.
Als ik zelf les geef dan probeer ik met elk van mijn studenten een connectie op te bouwen,
maar dat kan niet altijd in elke situatie. Je merkt dat wanneer je goed heb nagedacht over je doelgroep,
Als je nu weer je ontwerp gaat testen, kijk dan goed naar waar ze blij van worden. Zelfs al scheer je ze allen over een kam, zodra je goed hebt nagedacht over wat ze motiveert, ben je al een stap verder.

00:06:50
Als je daar dan nog subgroepen in aanbrengt, jongens-meisjes / ouder-jonger... of leerstijlen - die worden ook vaak gebruikt.

Het is moeilijk om voor iemand te denken als in : “ Dit vindt jij leuk”.
Als je een spel ontwerpt dan kun je wel nadenken over “ dit zal jij wellicht leuk vinden”. En als dat goed doordacht is dan klopt dat ook wel vaak.
Bij een leerervaring die we ontworpen hebben voor kinderen die leren lezen, kwam naar voren dat meisjes om een andere reden lezen dan jongens. Het gaat over cliches, maar het palet aan mogelijkheden is belangrijk. Dit biedt ruimte voor eigen invulling binnen het palet aan mogelijkheden.
Echt op maat dingen aanbieden, is eigenlijk alleen mogelijk als je een heel groot systeem hebt, of een op een werkt.

Met een spel zitten er natuurlijk ook veel begrenzen in het spel.

00:09:20
LV: in mijn spel probeer ik verschillende leerstijlen aan te spreken, door verschillende fasen in het spel te hebben.
Even een paar stappen terug: Als docent wil je wel dat leerlingen iets leren , ook als ze dat zelf nog niet inzien dat het relevant kan zijn op langere termijn.

00:09:30
NF: De eerste stap in het ontwerp van een leerproces is nadenken over wat de relevantie is voor degene die iets gaat leren. Zodra je die relevantie duidelijk kunt maken, spreek je ook meteen die relevantie aan.

Dat gaat bij het een wat makkelijker dan bij het andere. Soms gaat het over iets heel abstracts, of het licht zover in de toekomst dat het nu nog niet relevant lijkt. Maar toch zijn er heel vaak mogelijkheden om het relevanter te maken dan dat het is.
Zodra je een beter antwoord kan geven dan waarom - daarom, dan ben je al op de goede weg.
NF: In het canvas kan dit zijn fysieke of logistieke beperkingen zijn, maar het kan ook zijn: Dit is zon suf onderwerp, hoe krijg ik iemand hiervoor gemotiveerd.

Zodra je merkt, dit heeft invloed op iets van het ontwikkelproces, dan neem je de beperking op in het canvas. Het helpt om niet af te dwalen en te denken, ja maar ... dit is zo’n leuk idee, we gaan het gewoon doen ...

00:12:30
NF: Beperking klinkt vaak negatief, maar het leidt ook tot creativiteit. Beperkingen zorgen er ook voor dat je gerichter gaat denken. Daar is het canvas op gericht, Je gaat gerichter denken. Iedereen kan iets leuks bedenken, maar je moet het Kanaliseren.

Ik kwam op beperkingen omdat ... over de relevantie van datgene wat er geleerd wordt.

00:15:56
NF: Als docent is het heel verfrissend om het om te draaien en te kijken wat de behoefte van de student is. En hoe kan ik daar - als docent - op aansluiten.

LV: en daarmee een brug te maken ... Wat wil ik dat ze leren , wat zijn de eind competenties ... en aan de andere kant, wat is daarbij de passende motivatie voor de student.

NF: Je kunt het hele onderwijs systeem niet veranderen. Het is zo een groot en pluriform begrip, er zijn scholen waarbij je meer kunt dan bij anderen ... etc

00:15:00
LV: Ik vroeg me ook af waarom dit product nu zo goed werkt, en dat komt natuurlijk ook door de setting, het is een totaal andere situatie voor de studenten dan de normale gang van zaken binnen school ..

NF: juist en daarom is het ook belangrijk om bewust te ontwikkelen. Kijk, leerervaringen zijn een proces, en daarbinnen ga je dingen doen. En op het moment dat je 1 manier pakt en die steeds toepast, dan wordt die saai en voorspelbaar. Het nadenken over het hele proces, een semester, een jaar, ... .dat ontbreekt vaak.

NF: Op het moment dat je vanuit de leerling gaat denken dan kom je op andere benaderingen. Na vier jaar, kun je dit en dat... zo kun je terug denken en naar dit doel toe werken en ontwikkelen.

Met het canvas breek je het onderwijs op plekjes open en biedt je een alternatief.
NF: Feedback is zo’n belangrijk element in een leerervaringen dat moet overal in terugkomen. Daarom zit het niet expliciet in het canvas. De feedback die geef in alle stappen van een leerproces moet kloppen, dat kan gaan over de GUI maar ook over inhoudelijke feedback. Als je geen feedback gebruikt in een ontwerp van een leerervaring gaat er ergens iets niet goed. De feedback moet constant zijn.

LV: Betekent dit dat de feedback heel klein is ..? 

NF: traditioneel is er veel focus op het resultaat en weinig op het proces. Het resultaat is niet onbelangrijk. Bij elk ontwerp van leerervaring heb je een enorm palet aan mogelijkheden, welke didactische middelen en tools gebruik je ... feedback speelt wel een rol daarin. En de focus op proces daarbij ook. Feedback kan van klein tot groot zijn. Van bewust tot onbewust.

LV: terwijl je wel wil dat de kennisoverdracht ... bevestiging zoekend. (“docent, is dit goed zo?“)

NF: je moet toch naar een bepaald resultaat. Als je iets gedaan hebt en dan zegt... zo dat was het, dat geeft ook geen goed gevoel. De afronding ontbreekt.

LV: het spel is af wanneer ze gewonnen hebben. Ik weet niet of dat afdoende is, en ik weet niet wat ik exact meet.

Het gaat er om wat er voor en wat er na komt. Wat doe ik zodat ze beseffen wat ze geleerd hebben. Dat kan heel simpel zijn door na het spel te spreken,: JE hebt dit ervaren en dat kan heel waardevol zijn ... daarom en daarom ...
00:34:17
Wij denken altijd na over wat ervoor en wat erna komt. Probeer het spel een juiste plek te geven zodat het op zijn plek komt.
Je bent met iets heel waardevols bezig, en hoe maak je die waarde bekent voor je student.
Soms kan dat door te spelen en door het besef achteraf. Reflectief.

00:36:10
NF: Het spel is eigenlijk een soort ijsbreker om met het thema aan de gang te gaan.

a.5. Playtest results
a.5.1 Survey VLCg - PlayTest 2.1: Explained Results
The playtest took place at Utrecht School of the Arts during two hours of class. The teacher was present and presented the game, the purpose for playing, the research being done, explained the rules fully and asked the students to answer a survey of 17 short questions as soon as the game was over. There were 14 participants, all of them students of IMA (Image and Media Technology), ages from 18 to 26. The game was play-tested twice in teams of two members: within three teams in one case and four in another.

The rating of the game (question number 15) when asking if it helped improving their skills on a range being from 0 not at all and 5 very much, showed that all players were quite satisfied (between 3 and 4), of which 8 rated 3 and 6 rated 4. The qualitative answers were positive too. The question How did you like the game as a different activity for learning? had most answers being like it or had fun. Evidence of the solidness of the game was clear through some expressions like:

“it was fun to force ourselves making quick works based on certain rules”, “By using terms I didn’t know”, “Because you have to discuss with others in a short time you gain knowledge”, “Fun, it was an enthusiastic competitive way to work”, “A better way to learn by playing than just learning from a book or presentation”.

On the other hand, there were two players commenting on the difficulties: one found it chaotic, which is something to consider in playtest 2.2, and for the record, a statement confirming the Visual Language Cards Game is not an easy game: “Difficulty is that the first time you play the game there seem to be quite a lot of rules and some cards are to be interpreted differently.”
On the question: would you recommend this game as a tool for learning and being evaluated, 64,5% (9 students) answered yes, absolutely; 21,4% (3 students) didn’t know; and 14,3% (2 students) marked other.

Towards understanding the satisfaction of the experience it was important to have a quantitative conclusion. For this reason, the question How many times would you play to achieve more competence on visual language? could be responded within this scale: I would chose not to play/ Only once/ From 3 to 5 times/ As many as necessary. The results were consistent with the previous questions and answers, having most of the students ready to play again a number of times:

- 11 students (78,6%): from 3 to 5 times
- 1 student: as many as necessary
- 2 students: only once

The scoring of the two parts of the game (questions 7 and 8) are good and similar, demonstrating that the effort made to redesign the second part after playtest 1.3 was worthy:

- the intensity of the experience at part I, analysed by means of dull/ thrilled on a scale of 0 being dull to 5 being thrilled, was high, having the 14 gradings in the range of 3-4 of which the 71,4 % (10) were quite thrilled (rating 4) and 28,6% thrilled (rating 3).
- Similarly, the intensity of the experience at part II had the highest number of players being quite thrilled (8 players rating 4); exactly the same number were thrilled (4 rating 3), but differently, there were two extremes: one player rated 5 (maximum rating in the scale 0-5) and another rated 2 (lowest rating in the same scale).

The results show that most of the participants (eleven) enjoyed and gave positive feedback about the game as a learning tool, only two students were not very interested while one was enthusiastic about it.

The participants had to chose between 12 different actions to describe what were they doing while playing. They were allowed to click diverse options, which resulted in many of the verbs being selected. The most voted were three actions concerning the process of getting conscious competence (recognizing, analyzing, discussing) and the fourth was creating.
The survey presented four questions about the cards itself and the possibility to give comments (questions 9 to 12 and 13).

7 players noted that the most difficult cards to play were the Mission cards. 3 found the gestalt or semiotic the most difficult. The fact that the role task they had to perform was perceived as difficult -even if it is clear, as the chart number 9 shows-, can be explained by the lack of professional experience of students at their first year.
When questioned more generally about the easiness or struggle to use the cards, there is a huge variety of responses (more than in any other request): marks grow from one to five leaving only zero out of the question. Seven contributors mark it with a three (middle of the scale) being this the most common answer. The finding is that the game is not obvious neither simple to play, confirming the balance in the design between playing and acquiring knowledge and skills.

Contrasting with the last conclusion, the participants stated that the cards were clear enough to argument, with marks between 3 and 5.
The repeated comment about the cards was that it if would have been in dutch they would have understood better. This conclusion will be implemented in the next play-test (2.2) for which the game will be translated to dutch. The participatory observation of the teacher leaded to the same impression that the language -english-, was too difficult for some of the participants, as they were checking words online and asking about meaning.

The comments on the design: “main goal was at bottom of card instead of top”, and “A bit more distinction between some cards” will be taken into consideration too for the new version in dutch.

Motivation for playing was connected 8 times to the fact that it’s part of a class or proposed by the teacher, 3 times with winning, and 3 times with the point that it was a game. These statements can be translated as an approval of the game in its ludodidactic objective; although it would be interesting to grasp, in the new play-test, if the game itself would be motivating enough when disconnected from a course.

There were some contributions at the end of the survey, comments which were not a requisite. Of seven reactions, two demanded a version in dutch to make the game easier; two others remarqued it was fun; and one commented on an easier way to express the rules.
## a.6. Participating Observation

<table>
<thead>
<tr>
<th>Play test 1</th>
<th>19.04.16</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14 IMT year 1. First experience</td>
</tr>
<tr>
<td></td>
<td>One group of 8 players / One group of 6 players</td>
</tr>
<tr>
<td>Main changes</td>
<td>Game board implemented</td>
</tr>
<tr>
<td></td>
<td>Rule-set changed from version 1</td>
</tr>
<tr>
<td></td>
<td>New Roles defined for Mission Cards</td>
</tr>
<tr>
<td></td>
<td>Pointing system changed</td>
</tr>
<tr>
<td>Game - Play</td>
<td>Round one lasted 30 minutes. The players did not have a problem with it. To me however it felt like a classroom assignment.</td>
</tr>
<tr>
<td></td>
<td>Even students who came late and did not act as players were actively interfering and supporting in the second and third round.</td>
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<tr>
<td></td>
<td>All players were fully immersed into the game (this is major improvement from version 1).</td>
</tr>
<tr>
<td></td>
<td>Playing time was 1 hour, 45 minutes.</td>
</tr>
<tr>
<td>Rule set</td>
<td>The rules were not read that well, but students discussed and decided on the rules on the go.</td>
</tr>
<tr>
<td>argumenting</td>
<td>Validating or debunking of cards caused frustration for the makers.</td>
</tr>
<tr>
<td>other</td>
<td>English proved difficult for most players. The 15 minutes for round one were too short since players had to look up the meaning of certain card and words.</td>
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<tr>
<td></td>
<td>The quality of work varied. students were either photographing or using image manipulation software for their images.</td>
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<tr>
<td></td>
<td>There was no judgemental remarks or issues on the work created.</td>
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<thead>
<tr>
<th>Play test 2.2</th>
<th>12.05.16</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>6 Graphic Design year 1, First experience</td>
</tr>
<tr>
<td></td>
<td>One group of 6 players</td>
</tr>
<tr>
<td>Main changes</td>
<td>The cards were translated into dutch.</td>
</tr>
<tr>
<td></td>
<td>Rules are not explained on forehand.</td>
</tr>
<tr>
<td></td>
<td>Mission Cards refined: more distinction between profiles.</td>
</tr>
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<td></td>
<td>The point-system changed: counting points after each round.</td>
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<tr>
<td></td>
<td>Judging had to be done immediately after an argument was given.</td>
</tr>
<tr>
<td>Game - Play</td>
<td>15 minutes to create is enough, but some students don’t take it seriously, especially if they have to print. Instructions have to be given so the printing is included as part of the first part.</td>
</tr>
</tbody>
</table>
the group was actively in play.
Creating was fun. But students did not complain about the time frame.
Each player was involved for the whole duration.

| Rule set | The rules were not read that well again. The group was asking the teacher for explanation.
Counting points at round one worked.
Mission cards & points → At the end of round 3 the rest of tokens are placed on mission cards... More teams guessing your card right mean also multiply for you. |
| argumenting | Arguments were not that challenging. Players approved easily. Everyone was overly polite. |
| other | Nabijheid card … contradictory description on the card. Graphic Design students did not make clear distinction between the categories of cards (e.g. for a triangular composition form … many triangles were drawn randomly on a paper). Also during argumentation no other player remarked on this. The rule set does not clearly describe the content distinction of cards. A context is needed in order to play.
No participant had difficulties with - or remorse on - the quality of art-works. *! The amateur Cards was in play, but the team playing the amateurs did not make full use of the deceptive possibilities. ! all graphic design students worked analogue: either drawing or collage. This was unique and did not occur in previous play-tests. * Survey response was under average. |

| Play test 2.2 | 13.05.16 |
| Main changes | The cards were translated into dutch. The point-system changed: counting points after each round. Mission Cards refined: more distinction between profiles. Judging had to be done immediately after an argument was given ... by all players! Rules were explained. |
| Game - Play | Groups were active, and different player types were noted. One group was fanatic and independent. One group kept discussing the content of cards and their relation to the artworks. And one group was in search of help on the exact rules. Creating was fun and challenging. 15 minutes proved difficult again. Game play lasted one hour. Students did realise the (official) class hours ended. It was friday.

The quality of the work is irrelevant as long as it stays within the game. Some teams play for playing, some for the content of the cards. |
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<tbody>
<tr>
<td>Rule set</td>
<td>The rules were not read that well again. Some groups made up their own rules, one group started reading the rules when needed during play; one group was asking the teacher for explanation. The rules need to be explained orally. Some rules can’t be played the first time, like moving cards that don’t have tokens. Points feedback during play → At end of round 2 teams calculate their score to determine who starts first in round 3. In this test students played more fanatic and a flaw was discovered in counting points after one round (the cards can not be taken by another team in round 3 if counted already). Remark on Guessing Mission cards: If you guess wrong because the creator were really bad experts, you do not receive points because of the incapacity of the creators.</td>
</tr>
<tr>
<td>argumenting</td>
<td>Validating or debunking of cards caused philosophical discussion in one group, and competitive discussion in another group. The competitive group did however start to play with concepts on the cards. In this test all groups showed understanding of the differences of the card-types. Argumenting was more intense than the Graphic Design group. The argumentation goes well if the teacher gives an example of good and bad argumentation. There is a tendency to discuss if right or wrong instead of thumbs up or down, until the teacher’s remarks.</td>
</tr>
</tbody>
</table>
| other | Coins not fully clear . . . who owns which … who counts what. → the boards should be colored too . . . in same color set.

*! The amateur Cards was in play again. The team playing the amateurs did use of the deceptive possibilities, but lost track of their goal in Round 2 when they were giving valid arguments. They were so taken by giving correct argumentation that they forgot about sabotaging. Playing the amateur is difficult, they don’t know how to play the cards: correctly or wrongly and how to behave at the 2nd part. If everything they say is wrong it’s too obvious, so they convinced the other groups with their reasoning and got all the points. |
Most students were photographing. Some worked on the computer. Nobody took pictures of architecture although they all made pictures. They used their bodies or collected google images. Approx 30% of the Students confirmed the value of the cards in their profession and were eager to work more with the cards. The 1 minute time frame is enough and keeps temperature high. Nobody is in charge of the sand clock until they are asked to be proactive and act as needed. Counting points takes long (the activity lasts 5 more minutes because of this). For further development of a course the game has many possibilities, seeing the implication of Pepijn Van De Port, the photography teacher, it can be presented to other teachers who can implement it in their courses.

<table>
<thead>
<tr>
<th>Play test 2.3</th>
<th>18.05.16</th>
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<tbody>
<tr>
<td>6 IMT year 1. Second experience</td>
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<tr>
<td>One group of of 6 players</td>
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**Main changes**

- Negative points was added for being late round 1.
- Cards were in dutch.
- Judging had to be done immediately after an argument was given ... by all players!
- The point-system changed: counts after each round were removed again.

**Game - Play**

- Everyone was jury ... most thumbs count ... this gives everyone an active role and prevents complex shifting of team roles... Also the creators still have an influence in their own work.
- Counting - points after round one doesn’t work, because non-argumented cards can be conquered by other team during round 3 ... this would render the points at the end of round one untrue.

**Rule set**

- At end of round 2 teams calculate their score to determine who starts first in round 3. In this test students played more fanatic and a flaw was discovered in counting points after one round (the cards can not be taken by another team in round 3 if counted already).

**argumenting**

- Validating or debunking of cards improved. Not only because of the language, but also but students used some cards for the second time. With these cards the argumentation was more elaborate.
- Having all players voting, helped improve the decision-making process. Implicitly
putting more focus on argumenting (and thus knowledge transfers). One team did not care about the time constraint in round 2 + 3 for the sake of argumenting.

| other | Two groups wanted more time for round one and preferred using the cards as a conditional design deck. The hour-glass should be a clock with a ringer (remark made by player) so that the one minute is clear to all, now one groups did not care about the time constraint. Two students asked for more assignments with the cards besides playing. |