It's all fun and games…

A history of ideas concerning gamification

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Abstract
The paper offers the first results of an analysis of popular gamification guidebook publications. Using the way these guidebooks consider digital games as a starting point, I single out three of the most commonly mentioned associations with games and put them in the context of the overarching ideas that infuse them. After discussing the relationship of gamification and 1960's behavioral experiments in psychiatric wards, I outline the most important issues that the analysis entails for further research.

Keywords
Gamification, Token Economy, Behavioral Modification, Experiment, Points, Flow

INTRODUCTION
Gamification is a vague term at best, and a troublesome and difficult concept at worst. Typical definitions (Graft 2011) describe it as a technique that seeks to apply game-mechanics to non-game contexts. In its current implementations, this usually comes down to reward-systems of varying complexity. A typical example would be Foursquare, a social network service geared towards mobile devices. Foursquare offers its registered users points and badges for "checking in" at certain locations – commercial venues that cooperate with the service. Since reward-structures like these are largely based on points (and/or badges), a common critique contrasts gamification with another neologism, namely "pointsification" (Robertson 2010). Point-based reward systems, the core of the argument states, are not games, nor are they on their own game-like or especially useful for the goals of gamified systems. That gamification is harshly criticized (Bogost 2011) is connected to what I would like to call veiled gamification and concerns a deliberate terminological inadequacy: not everything that could reasonably be described as gamification is actually labeled gamification[1]. Essentially reduced to a negatively connoted marketing buzzword, gamification is a symptom of a larger shift in the way digital games are perceived and regarding the place they inhabit in today's information

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society. Digital games are instrumentalized to various degrees, there is a prevalent rhetoric that seeks to make use of them to accomplish vastly different goals: the marketing strategies and neoliberal optimization promises of gamification, the educational approach that drives many serious games and several related concepts (e.g. McGonigal's position in Reality is Broken). This paper seeks to contextualize this instrumentalization by providing an overview of the attributes and techniques ascribed to digital games in gamification guidebooks. In a second step, two of the most prominent characteristics (namely, flow and point-based reward systems) are considered as part of a history of ideas of gamification (and thus the instrumentalization of digital games). The larger question that is to be developed in the course of this exploratory paper concerns the usage of games against the background of their de-construction as instruments of disciplinary actions and power. Precisely: Is it possible to develop a notion of what games are (becoming) through a discussion of the way games are used and the various traditions and ideas infusing said usage? The paper should, however, not be regarded as another addition to various attempts of defining digital games ontologically. Instead it aims to offer a different angle on the challenge of coming to terms with digital games as a quickly evolving medium along the lines of analyzing specific tropes in the popular discourse regarding games, in this case, the instrumentalization of games.

CHARTING THE MAP OF GAMIFICATION

The guidebooks concerning gamification that are the core object of research for this study far outweigh scientific publications on the same subject. The choice to focus on publications that are not strictly scientific is, however, not motivated by the quantity of available material. I instead deliberately concentrate on guidebooks that have a larger audience than academic publications and supposedly impact how gamification is actually implemented. Such "cookbooks" on how to "gamify" various systems or institutions (or, in a more general way: on the positive potential of digital games) always carry with them certain more or less explicit assumptions regarding what (digital) games are, how they work, how they are received by their players and what predestines them to be applied to non-game contexts. Interestingly, while the goals or the core subjects of these books vary widely, from marketing to consulting and even self-optimization, the means that are proposed to help achieve them are very similar. It is possible to differentiate groups of assumptions or propositions regarding games. They range from general statements to particular observations and I propose the following preliminary categorizations:

Games as experimental techniques

Games have negotiable consequences. This feature of games is a prominent part of many definitions of digital games (Juul, 2005) and, while not being non-controversial[2], it is part of an important argument in many guidebooks: digital games are seen as experimental environments in which certain tests, but also training can be conducted in a less expensive way without the fear of consequences beyond the game-world. Chatfield (2011) states that game-like systems are ideal training grounds for future soldiers (Chatfield 2011, 193). Dignan (2011) similarly points out that games do not punish risky behavior like non-game contexts would and that they are ideal for facing fears in the repetitive safety of simulated environments (Dignan 2011, 44f). Beck and Wade (2004) underline that "[g]ames are great practice for real life" (Beck&Wade 2004, 75). Edery and Mollick (2009) directly refer to the capabilities of training games to induce experimentation that would otherwise be impossible (Edery&Mollick 2009, 126).

Games as sources of flow

The psychological notion of flow, first described in 1975 by Mihaly Csikszentmihalyi, has since made an impressive career in game research. Csikszentmihalyi originally focused on the question of optimal experience and the actions and circumstances that afford it, demanding for work to be structured more like a game (Csikszentmihalyi 2008, 152). Specifically, he identified goal-orientation and rules as well as (among others) feedback and an altered sense of time (Csikszentmihalyi 2008, 49). Because of these characteristics, Csikszentmihalyi proposes that even daily routines[3] could be transformed into optimal experiences by turning them into "personally meaningful games" (Csikszentmihalyi 2008, 51): "Mowing the lawn or waiting in a dentist's office can become enjoyable provided one restructures the activity by providing goals, rules and the other elements of enjoyment […]" (Csikszentmihalyi 2008, 51). This leads to the reception of his theory in the context of gamification: the careful balance between challenge (through the task or environment) and ability (to meet said challenge) creates a particular state during which players feel challenged in just the right way, play extensively and tend to forget their surroundings. As such, flow is a ubiquitous concept in gamification discourse. Especially its alleged effect of focusing attention is highlighted (Reeves&Read 2009, 182ff.), among the advice to become one's own flow-designer through making a game of everyday chores (Dignan 2011, 7ff.) and the ability of well-made games to absorb their players and circumvent boredom (Chatfield 2011, 43;51). Of course, ultimately most guidebooks seek to "transplant" the flow caused by digital games into non-game activities, e.g. to structure business operations or work in general more like a game (Edery&Mollick 2009, 159).

Games as governed by points and high-scores

The previous two aspects of digital games according to gamification are of a theoretical nature, they concern characteristics that are argued to be somehow connected to or adaptable by games without necessarily being game-intrinsic. The matter of high-scores is somewhat different in that (feedback)systems based on collecting and earning points are evidently featured in many games. The impact these systems have on actual gameplay varies, but they can be singled out as important arguments for the merits of games in gamification literature, according to which points and scores fulfill two main goals: they measure and they reward players. The former is evidenced by Chatfield, who enthusiastically points out: "[G]ame technologies excel at nothing so much as scoring, comparing and rewarding progress […]" (Chatfield 2011, 199). Besides underlining the allure that points have as a scoring measure, Dignan describes their effect as "magical": "We see them as a reward, even when they're worthless, because they are a form of validation. Points represent an abstraction of value and so we often act irrationally when points are in the mix" (Dignan 2011, 155). This irrationality also forms the base for Zichermann's and Linder's advice for "making points the point" (2010, 68). Their gamified marketing strategies put high-scores and points in a central position because they can simulate value without actually granting benefits (Zichermann&Linder 2010, 123ff.), while at the same time sparking competition amongst customers though leader-boards (Zichermann&Linder 2010, 55ff.). Only rarely is this approach of assigning points to everything criticized. Edery and Mollick point out that using points to make work feel like play could encourage cheating or power-gaming, decidedly undesirable behaviors in work environments (Edery&Mollick 2009, 168ff.).

Gamification guidebooks display ideological notions of what digital games are and how they work. The attributes mentioned above, themselves compiled from groups of propositions, are not exhaustive and the list could be expanded on in various levels of detail. This paper is limited only to the most common of the features that were mentioned in relation to games in the reviewed literature. The next section of the paper is concerned

with contextualizing these findings in what is to be the first sketch in a larger project on the history of ideas that pervades the discourse of gamification.

TOKEN ECONOMIES AND THE ALLURE OF SCORING

It has been shown that points and scores are paramount in today's popular theories on gamification. It seems likely to discuss these systems in the light of their role in the media history of digital games, especially in the context of arcade gaming in the late 70s and 80s (cp. Kent 2001) and the first fan-driven attempts to develop nation-wide leaderboards (http://www.twingalaxies.com/about/), thus adding additional social value to singular score. Instead, my approach is more in line with what gamification aspires to do. Point based, closed systems are not to be seen as inherently ludic phenomena, but as arrangements of human motivation, measurement and experimentation that can be traced to psychiatric experiments. The point systems of today, presented as formulas for the success of digital games that can be detached from said games and applied to marketing or consulting, are revisiting experimental approaches to behavior modification that became to be known as *token economies* in the 1960s.

Token economies essentially were first conceived as a point-(or token)based experimental rehabilitation treatment for long-time psychiatric patients. The first experiment began in 1961 at Anna State Hospital, Illinois and was conducted by Teodoro Ayllon and Nathan Azrin. This pioneering effort still remains the best documented. The token economy as developed by Ayllon and Azrin can be seen as an effort among a larger tendency to influence human behavior through behavioristic methods (Kazdin 1978). Generally, whenever a behavior occurs that is to be strengthened (made to occur more often), reinforcement is presented. These reinforcements may range from presenting children with candy to intangible benefits like praise. Tokens were a regular feature in many of the experiments, mostly because they guarantee a standardized and easily quantifiable way to control the reinforcement procedure (Ayllon&Azrin 1965, 77). The tokens are handed out and can be exchanged for tangible rewards later on. Token reward systems were used already at the end of the 1950s, for example in experiments with children with learning disabilities (Kazdin 1978, 253). The novelty of Ayllon's and Azrin's approach is a matter of scope. Their goal is to create an effective "motivating environment" (Ayllon&Azrin 1965, 5) that will reinforce desirable behavior and cause undesirable behavior to become extinct. Thus, the experiment encompasses the whole closed psychiatric ward of Anna State Hospital and lasts for six years (Ayllon&Azrin 1965, 13ff.), during which different series of experiments with varying parameters are conducted. The motivating environment of the token economy focuses on behavior modification for long-term inmates, who are to be motivated and behavioristically prepared for release from the ward. To achieve this, basically every desired activity (usually work assignments on the hospital grounds) earns the patients performing it a specific amount of tokens, while all items or activities that are coveted among the patients are assigned a specific cost of tokens. Only if the patients are able to pay the cost they are given the item or allowed to perform the activity. Patients have to pay tokens if they want private audiences with psychologists as well as for extra clothing, consumable articles or even an additional religious service (Bandura 1969, 261ff.).

Structurally, there are several similarities between how token economies handle their tokens and points are treated in the gamification discourse. The general goal of a motivating environment seems almost identical, whether employees, customers or psychiatric patients are to be motivated. The specific method of influencing or changing behavior is what ties gamification approaches directly to behaviorism, as has already been shown (Deterding 2011). The irrational actions that are ascribed to point-based

games in gamification literature (c.p. Zichermann&Linder 2010; Dignan 2011) in behavioristic terms are nothing else than specific changes of behavior that are the result of directed reinforcements. Token economies largely offer tangible rewards where gamification specifically labors to validate points through themselves, however, even the first major book on token economies already mentions the possibility of detaching the reinforcement from actual physical rewards: reading a mail-order catalogue without ordering anything is identified as a reinforcer to the patients (Ayllon&Azrin 1965, 69ff.). The same publication discusses the replacement of (tangible) tokens with (intangible) points or credits: "In addition, the points are standardized, have a simple quantitative dimension, and are not easily altered or destroyed since the record of the points or credits can be safeguarded. The disadvantages of points and credits are that they are intangible and hence are not in the individual's possession during the delay interval. Their intangibility also limits them as a medium of exchange and prevents their use for operation of automatic reinforcing devices" (Ayllon&Azrin 1965, 78ff.). The project of gamification is, in a way, already prefigured in considerations like these. The intangibility of points, perceived as a flaw by the behaviorists regarding their potential as an exchange medium, is precisely what predestines them for use in a ubiquitous digital motivation environment. In a gamified world[4], there is no delay interval between behavior and reinforcement, because the devices and mechanics that are measuring players and awarding points are ubiquitous. The same is true for points as a "medium of exchange", since the medial environments that gamification relies upon guarantee the value of points because of their interconnectedness – high-scores and leaderboards only work if scores can be compiled and compared across different devices.

It is becoming clear now that the ideas driving gamification and through them the discursive knowledge amalgamating in the instrumentalization of games are reaching beyond game-design theory or marketing strategy. The association of digital games and experimental techniques that has been identified as one of the central themes of gamification guidebooks is not a product of chance. Even more so than its strongest advocates may think, gamification is (re)creating experimental arrangements – gamified systems resemble laboratories that run experiments on normalization and economic optimization. The literature on token economies reveals the prevalence of considerations on automatization and standardization. The greatest risk for the motivational environment in the psychiatric ward seems to stem from the attendants: "One can easily excuse any laxity in administering rewards due to these factors by stating that the attendants are, after all, "only human". But that is just the point: One cannot rely upon the attendant's intentions as a measure of what she is doing. The attendant is too much influenced by predispositions, external events, and behaviors of the patient to be expected to administer rewards in and impartial, objective, and standardized manner" (Ayllon&Azrin 1965, 12). Bluntly put, attendants are simply too unreliable, they are inconsistent in giving out rewards and their individual measure of what constitutes a desired behavior varies. The solution in token economies is automatization. The tokens function as chips and the actual rewards are handed out through vending machines. This system is implemented thoroughly and to the point where access to certain areas in the ward (e.g. the leisure room) is restricted by token-operated turnstiles (Ayllon&Azrin 1965, 141). Where vending machines cannot be employed, especially in the case of intangible rewards like social interaction or religious service, the procedure is strictly regulated through the measurement of duration. The experiments in general are designed for a minimum of human involvement: "The best way to eliminate the influence of a human in the recording and presentation of the reinforcer is to minimize his participation or to substitute some automated method" (Ayllon&Azrin 1965, 140). Token economies can be considered an

attempt to implement a motivational environment that is largely automated, which is a procedure that inevitably is evoked as well in proposals concerning games in gamification discourse: "[G]ame technologies excel at nothing so much as scoring, comparing and rewarding progress […]" (Chatfield 2011, 199). The environments envisioned by gamification could be called scoring economies, the problems posed by attendants in the experimental design of the token economy are solved through the automatization provided by the structures of digital games. It is no longer necessary to develop a surrounding that is physically closed off or restricted, as long as the game design itself is not exposed.

It is here that flow comes into play in its function as an epitome of optimal experience. Contrary to the way flow was originally conceived by Csikszentmihalyi, it no longer is the ultimate goal to be achieved in those activities able to evoke it, but it instead becomes a medium through which optimization can be attained more easily: It conquers boredom (Chatfield 2011), it focuses attention (Reeves&Read 2009) and can make work more effective (Edery&Mollick 2009). It also becomes clear that gamification is not merely a renewal of 1960's behaviorism, but seeks to modify this heritage by combining the disciplinary arrangements of behaviorism with the allegedly satisfying effects of flow. The motivation of the motivating environments thus becomes twofold in gamification: the players/subjects are motivated through points, levels and progression while ideally attaining flow by performing according to the experimental arrangements laid out for them.

COSTS AND REWARDS

The token economy experiment, besides its already discussed therapeutic goals, revolves around efficiency. Long-term psychiatric patients are to be prepared for release, thus prepared to become functioning, efficient members of society. The experimental design for token economies showcases concern for efficiency as well: a core element of the therapeutic approach is having the patients work regularly in one of the jobs that usually have to be fulfilled on the ward. This leads to a substantial reduce in costs for maintenance of the ward (Ayllon&Azrin 1965, 210). The ethical ramifications of having patients work regularly to maintain the ward they are confined in have been discussed extensively (for an overview, cp. Wexler, 1973), however, the idea of "generating" work as a by-product of other occupations prevails and flourishes in gamification literature. The vision of a gamified working environment turns the token economy on its head by focusing not on therapy, but instead directly on work and offering ludic involvement as the by-product. When the token economy is about the gradual concealment of the psychiatric routine (in preparation for release), gamification aims to hide work (as another form of routine) behind mechanisms of play. The connection between work and (digital game)play is pointed out in several guidebooks, the scope of associations ranges from typical grinding in MMOs as work (Edery&Mollick 2009, 18) and gaming experiences as mediators for team-oriented thinking (Edery&Mollick 2009, 117f; Beck&Wade 2004, 75; Reeves&Read 2009, 84) to speculations about how games can be used to "harvest" the knowledge of their players (Edery&Mollick 2009, 189). One could even go so far as to postulate that the core capabilities that can be called forward or taught by digital games according to gamification are very similar to those that the 1960s psychiatric wards tried to instill in their patients[5]. This connection cannot be explored in the scope of this paper, I will instead focus on the outcome of working in the experimental design of token economies as compared to the game design of gamification.
The most distinct difference in ideology between the arrangements this paper seeks to compare seems to be in regard to the rewards or incentives offered to the participants.

Gamification specifically relies on "making points the point" (Zichermann 2010, 68), thus positioning points at the core of its mechanics, but as well as the ultimate intrinsic goal of every interaction with said mechanics. Token economies offer tangible rewards like cigarettes, sweets or access to television, the tokens themselves merely figuring as a medium of exchange. This comparison, however, neglects a fundamental structural similarity between token economies and gamification programs: both are multi-purpose applications. Gamification is presented as a ludic cure-all for the motivational and organizational problems of modern informational societies. It is applied to marketing (cp. Zichermann 2010), to consulting (cp. Edery&Mollick; Reeves&Read) and self-optimization (cp. Dignan 2011). Token economies are similar, since while they originated in 1960s behavioral psychiatry; there soon emerged various areas of application that ranged from educating citizens in ecological behavior (Kazdin 1977, 229ff.) and matters of military training (Kazdin 1977, 243ff.) to the optimization of job performance (Kazdin 1977, 236f.)[6]. These applications already resemble a catalogue of desires that later on are to be satisfied through serious games and gamification. The token economy as a system stays the same at its core, wherever it is externally applied. It is this external application that puts token economies in line with later developments like large-scale bonus programs (e.g. frequent flyer miles), which in turn constitute the prime example for some marketing-oriented arguments (Zichermann 2010, 111ff.) regarding the power of points and thus, of gamification. The tangible incentives that token economies offer instead of "mere" points cannot be considered external benefits or "pay" for the participant's work. Token economies restructure the systems they are applied to and turn commodities everyone usually has access to into rewards that can be earned. In the case of the psychiatric wards this means that access to luxury articles or recreational activities is usually possible, until the token economy purposefully restricts it. In an effort to discover which activities would work as reinforcers, patients on the ward were observed and the behavior that was thought to occur frequently was restricted through the token economy. The restrictions cover a wide range, from trivial limitations like not being able to select one's chair to sit in (Ayllon&Azrin 1965, 61) to severe constraints of basic humans rights, like being deprived of food or not being allowed to sleep in a bed (Wexler 1973, 87ff.). Token economies in the 1960's do not (yet) use points as their ultimate motivational goal, but like gamification they aim to transform the systems they are applied to and to submit them to the rule of tokens. This does lead to various developments, some of which foreshadow typical game-design elements, but also highlight one of the problems that today jeopardizes gamified environments. Both will be briefly touched upon before the paper is concluded.

Token economies in their experimental roots are designed environments. As such they employ techniques that directly invoke typical digital game elements that in turn get re-contextualized (in the spirit of classical behaviorism) by gamification applications. Tiered progression, often through levels, is a part of the structure of many digital games and is also present in gamification literature (Reeves&Read 2009, 75ff.; Zichermann&Linder 2010, 34ff., Dignan 2011, 132ff., 153ff.). It also appears in token economies, fulfilling a similar function: progression through the rehabilitation program as well as "physical" progression through the ward as such is tiered, the access to a privileged status or to additional areas of the ward (e.g. the garden) has to be purchased through tokens (Ayllon&Azrin 1965, 202; Wexler 1973, 25ff.). The psychiatric ward as an already limiting and controlling environment becomes even more restricting to its inhabitants, while at the same time opening up the possibilities for new/added agency through participation in the program. Unfortunately the way the experiments have been documented does not provide the evidence for an in-depth discussion of the way the

level-structure actually worked during the experiment and for a comparison to the mechanics of gamification. Besides (or because of) falling back on similar structures, token economies and gamification share a similar problem as well. They either are experiments (in the case of token economies) or put a strong emphasis on the experimental qualities of digital games. As such, they are existentially endangered through all creative approaches in interacting with the rules they present, including (but not limited to) cheating, "power-gaming" and, even, playing. While cheating is usually considered a typical player behavior that entails a subversion of rules (Consalvo 2007) and as such is inherently threatening to rule-based systems, the extreme optimization of performance (power-gaming) and the playing around with the rules (instead of playing by the rules) are highly problematic as well. Many gamification guides explicitly warn of these unpredictable player behaviors (Zichermann&Linder 2010, 105) and position themselves in a way that suggests that gamification applications are not aimed at players at all, since they obviously try to prohibit core player behavior[7]. There are similar concerns to be found in the protocols on token economies, albeit not many cases of cheating or playing were actually documented. Ayllon and Azrin underline the importance of attendants for occasional observation through a case of cheating in which the token automatic of a TV set was subverted by inserting a nail file into the token slot (Ayllon&Azrin 1965, 150). The ideas shared by token economies and gamification, automatization, standardization and optimization, are susceptible to play and play-like behavior. While the question of cheating in gamification applications has already been addressed (Glas 2011), there is still further investigation needed of the relation of gamification and the experimental arrangements it evokes to their players or subjects.

CONCLUSION

It is maintained throughout this paper that to understand digital games, it is helpful to examine the way they are contextualized in popular media. Specifically, I focus on utopian discourse surrounding digital games in the form of gamification. The way gamification guidebooks argue and the way they propose to make use of games frequently associates digital games with several central qualities. These qualities, among them an emphasis on points and scoring as well as the parallels between games and experimental arrangements, serve to picture games as systems focused on optimization, automatization and standardization. Through these issues the measures of gamification can (and have to be) put in a larger context that places them next to specific experimental arrangements like token economies. It is necessary to regard digital games not only as contemporary popular cultural artifacts whose techno-cultural evolution is interwoven with digitalization, but also to question which motives, ideas and aspirations infuse them. While this entails not focusing on digital games as games per se, it also opens up insights into the fascination with digital games that seems to form the basis of many gamification guidebooks. Digital games appear as phenomena that can be used, their appeal can be made productive and they can develop a motivational attraction that may be adapted for fields of operation as varied as consulting or marketing. This approach opens up a variety of questions that go beyond a critique of gamification, some of which have been touched upon in the paper, all of which need to be elaborated further.

One question concerns the circumstances under which digital games are charged with the ideas that have been described and analyzed in this paper. The conditions under which the assumptions of gamification are made have to be detailed if we want to understand the mutual interference between digital games and the theories of instrumentalized gaming. To accomplish this it is necessary to review the games that are cited as examples in the guidebooks, while also considering current developments in mainstream digital gaming

such as achievements in an effort to carve out the backdrop of gaming culture against which gamification emerges.

A second problem would be to further describe the mechanisms of power and control that are at work in gamification and its ideas. Interestingly, instrumentalized gaming (as an instance of the utopian discourse around games) is emerging as a focal point for different schools of psychological knowledge. Gamification clearly employs experimental behavioristic techniques, yet also emphasizes flow as a central and desirable quality of digital games. Since flow is part of what is known as positive psychology (Csikszentmihalyi 2008), a psychological school that instead of pathologizing people seeks to find out what keeps them healthy or happy, it seems diametrically opposed to the behavioristic motivational techniques that originated precisely in closed psychiatric wards. Gamification fuses these concepts in what appears to be an effort to create a motivating environment that still maintains the high level of control of experimental arrangements while optimizing the participant's individual experience.

The third, and perhaps most important question is the question of players and their position in gamified systems (and in the discourse of instrumentalized gaming in general). The paper already shows that players and their practices can be very problematic for the deterministic, experimental conditions of gamified environments. It is here that I see the greatest conflict between "classical" games and gamification: the former can be played with, while the latter cannot. Playing with games, as has been detailed on various occasions (Consalvo 2007, Sicart 2011) always involves a creative, unpredictable moment. This creativity is at odds with the approach gamification exhibits towards games and it is necessary to formulate a critique of gamification that has the player's role in mind.

It is safe to assume that the controversy surrounding gamification and other attempts to instrumentlize games will stay with us for some time to come. Whether we participate in the attempts to make game-transcending use of digital games or not, they will shape the way digital games are perceived, what is thought about and what is done with them. And regardless of the question whether these developments should be embraced or criticized, they in my opinion offer an excellent opportunity to broaden the scope of game studies as a transdisciplinary approach not only to digital games, but also to the way they are perceived and received as well as to the hopes, ideas and expectations that take form in the popular utopian discourse of digital games.

BIBLIOGRAPHY

Ayllon, T.; Azrin, N. The Token Economy. A Motivational System for Therapy and Rehabilitation. Appleton Century Crofts, New York, 1968.

Bandura, A. Principles of Behavior Modification. Holt, Rinehart and Winston, New York, 1969.

Beck, J.C.; Wade, M. Got Game. How the Gamer Generation is Reshaping Business Forever. Harvard Business School Press, Boston, Mass., 2004.

Bogost, I. (2011) "Gamification Is Bullshit" Available at: http://www.bogost.com/blog/gamification_is_bullshit.shtml (accessed July, 2013).

Chatfield, T. Fun INC. Why games are the 21st century's most serious business. Virgin Books, London, 2010.

Consalvo, M. Cheating. Gaining Advantage in Video Games. MIT Press, Cambridge, Mass., 2007.

Csikszentmihalyi, M. Flow: The Psychology of Happiness. Harper Collins, New York, 2008.
Deterding, S. (2010) “Pawned. Gamification and its Discontents”. Playful Conference, London. Available at: http://www.slideshare.net/dings/pawned-gamification-and-its-discontents (accessed July 2013).
Dignan, A. Game Frame. Using Games as a Strategy for Success. Free Press, New York, 2011.
Edery, D.; Mollick, E. Changing the Game. How Video Games are Transforming the Future of Business. FT Press, New Jersey, 2009.
Foursquare (2009) Available at: https://de.foursquare.com/ (accessed July 2013).
Glas, R. (2011) Breaking Reality: Exploring Pervasive Cheating in Foursquare. Think Design Play: The fifth international conference of the Digital Research Association. Available at: http://www.digra.org/digital-library/publications/breaking-reality-exploring-pervasive-cheating-in-foursquare/ (accessed July 2013).
Graft, K. (2011)"GDC 2011: time to ditch the term 'gamification'?" Available at http://gamasutra.com/view/news/33315/GDC_2011_Time_To_Ditch_The_Term_Gamification.php (accessed July, 2013).
Juul, J. Half-Real. Video Games between Real Rules and Fictional Worlds. MIT Press, Cambridge, Mass. 2005.
Kazdin, A.E. The Token Economy. A Review and Evaluation. Plenum Press, New York, 1977.
Kazdin, A.E. History of behavior modification: experimental foundations of contemporary research. University Park Press, Baltimore, 1978.
Kent, S.L. The Ultimate History of Video Games. Three Rivers Press, New York, 2001.
Kids Token Economy. Available at: http://kidstokeneconomy.com/ (accessed July 2013).
McGonigal, J. Reality is Broken. Why Games Make Us Better and How They Can Change the World. Jonathan Cape, London, 2011.
Reeves, B.; Read, J. L. Total Engagement. Using Games and Virtual Worlds to Change the Way People Work and Businesses Compete. Harvard Business Press, Boston, Mass., 2009.
Robertson, M. (2010) “Can’t play, won’t play” Available at: http://www.hideandseek.net/2010/10/06/cant-play-wont-play/ (accessed July, 2013).
Schell, J. (2010) “Design Outside the Box” D.I.C.E. Conference, Las Vegas. Available at: http://www.g4tv.com/videos/44277/dice-2010-design-outside-the-box-presentation/ (accessed: July, 2013).
Sicart, M. “Against Procedurality” in Game Studies vol. 11, issue 3 (December 2011). Available at: http://gamestudies.org/1103/articles/sicart_ap (accessed July 2013).
Wexler, D.B. “Token and Taboo: Behavior Modification, Token Economies, and the Law” in California Law Review vol. 61, issue 1 (1973), pp.81-109.
Zichermann, G.; Linder, J. Game-Based Marketing. Wiley, New Jersey, 2010.

ENDNOTES

[1] For example, gamification is not used as a term in all of the guidebooks reviewed for this paper, since some of them were written before the term was even coined. Others seem to omit the term on purpose. Yet, the way the authors argue and the way they depict digital games warrants their inclusion in this analysis.

[2] Especially in debates on gambling, multiplayer games or media harm; which often revolve around the question of the real-life consequence of gaming.

[3] Interestingly, it should be noted that Csikszentmihalyi at first concentrated his research efforts on very particular activities, such as performing surgery or climbing (Csikszentmihalyi 2008, 4). This would make flow in its original conception a supremely rare occurrence. Only later did he broaden the scope of his research to include, among others, assembly line workers. Thus flow became more common among different activities, though it still remained difficult to attain. The factory worker Csikszentmihalyi cites as one of his case studies has decades of experience and "mastered every phase of the plant's operation" (Csikszentmihalyi 2008, 148). This difficulty of actually meeting the requirements to attain flow is frequently disregarded by popular literature on gamification.

[4] E.g. as envisioned in Jesse Schell's popular talks at DICE conference.

[5] This assumption requires more research, but it is noticeable that some of the qualities that are praised as gamers' virtues like decision making or sociability are those that at least some of the behavior-modifying treatment approaches relied upon as core competences that had to be conveyed to patients to prepare them for release (Fairweather 1964 as cited by Wexler 1973).

[6] Interestingly, token economies in their original form of behavioral modification programs for closed environments persist even today, often as motivational programs for children (e.g. http://kidstokeneconomy.com/).

[7] There appear to be some exceptions to this rule, as the case of Foursquare's lenient anti-cheating policy shows. Though some functions of the service are highly restricted and monitored (the mayor-system), it is generally possible (and tolerated by the staff) to perform "false" check-ins and even collect badges and points that way (Glas 2011, 10).