Beyond Debriefing: Aligning Positions of Practitioners and Observers

Kees JM van Haaster

The HU Utrecht University of Applied Sciences, Netherlands

Abstract: The background of this article is social problem solving through online role-play simulation gaming in the varied dynamics of youth care network exchange about complex multiproblem, multi-actor and multi-reality situations. Many game theorists argue that debriefing is essential for learning from game sessions (Peters & Vissers, 2004; Fanning & Gaba, 2007; Crookall, 2010). Debriefing offers opportunities to bridge knowledge to action and action to knowledge through the joint reflection on performance in practice and in game sessions. Learning from debriefing aims at small steps ahead to change undesirable family and child rearing conditions into more preferred ones. This article suggests a practicable strategy for the application of online role-play simulation gaming in high context youth care problem situations. To find an answer, we have to adjust strategies of design, implementation and debriefing to the practices of the domain, in which the change is to be effected. The author proposes a practical way to improve patterns of action and reflection about dilemmas and hard to solve problems. Social intervention in parenting situations with additional complexities is realized in sequences of exploration, experimentation and evaluation, where step-by-step progresses are marked by balancing acting and thinking. This observation is challenged in a model that alternates acting in practice with retrospect and prospect reflection in online simulation game sessions. The practicable proposition of alternating reflection in and on action stays close to standards and prevailing youth care practices and offers ample opportunities for effect research.

Keywords: Youth care transformation, network exchange, social problem-solving, role-play simulation gaming, knowledge construction, network exchange

In knowledge-intensive workplaces, like youth care, the debriefing of simulation sessions about complex issues from practice aims at a gradual improvement of the problem situation that is at stake. Social problem solving is often characterized by unforeseen developments and ambiguous cause-effect relations. In attempts to find the best workable solution, social interventionists tend to try out small steps ahead, varying on reflection levels of strategy and action. Validation of a certain hypothesis is reached through successive approximation of reasoning. Decisions about help and intervention are taken from dialogue on the best possible explanation of situational cognition and on strategies that rest on collaborative agreements about what seems feasible and justifiable. Each proposal can be imbued with suppositions about the eventual consequences and effects.

Through argumentation and balancing conflicting interests, the intervention and strategy option with the fewest assumptions is selected. Not in an attempt to find an irrefutable principle of logic; however to find testable and falsifiable theories about the situation. In order to handle complex social problems, social interventionists have to find elegant and simple representations of the high complex contexts in which social problems occur. Dialogues about facts, impressions, objectives and strategies are helpful to find a common understanding of the tangled situational information. Online simulation gaming offers a relative safe environment to create valuable material for these dialogues. Sessions outcomes on processes and performance can be analyzed as input for reflective dialogues on their possible effects in real practice.

Toward a practicable strategy

The aim of this paper is a practical implementation proposition, in which we bridge thinking and acting from the position of practitioners to discussing effects and further steps from the position of observers¹. The question is: *how can we find a feasible strategy for the implementation of online simulation gaming to support network exchange about complex practical cases in view of timely and durable intervention?* The content of

¹ The alternation of positions of practitioner and observer is described in the work of Klabbers (2009)

the article builds on the findings of earlier research (Van Haaster, 2014) About the value of collaborative reflection on situational knowledge, discourse participation and choices of intervention. We shall defend the premise that game model design, effectuation in game sessions and transfer of session results to practice must be done in close cooperation with all actors involved. In view of an elementary understanding of the game environment, we describe its principle functions. Besides, we specify some relevant aspects of the method that has been elaborated in the research. After that, we reach the proposition of alternating the positions of practice, reflection and future change. Finally, we summarize the main arguments for this approach in view of the advancement of both complex problem situations in youth care practice and of the constituting theory².

The Serious Game of Youth Care Network Exchange

Many researchers have written about the positive learning effects of simulation gaming, mostly in contexts of education, training and strategic policy development. The most important consideration is the natural choice to relate practice to thinking and theory to action (Schön, 1983; Mayer & Mastik (eds.), 2007; Hofstede et al., 2010; Lukosch, Van Bussel, & Meijer, 2013). We maintain that simulation gaming could be effective for the enhancement of expertise and skills in youth care network practices. Also, the tool and method can support the study of individual and network proficiency, in view of the progress of practice theory. Game sessions can be studied as micro-worlds, and can be manipulated in consistency with scientific rules. Patterns of game interaction can be analyzed and interpreted in view of organizational change (Duke & Geurts, 2004; Boonstra & De Caluwé, 2006; Stoppelenburg, De Caluwé, Geurts, 2012). We know that simulation gaming enables the organization of reflexive feedback on performance within the context of systems relations and action (Van Haaster, 2014)

² Please see part 7.2 of the above referred research publication to read more about this constituting theory.

Mobilizing knowledge and feedback in a playful manner

Online simulation gaming invites to look back on professional performance from a meta-perspective and from different points of view, and helps to increase the individual awareness of personal and network implicit knowledge and routines. Suppose we want to know more about how team members or network partners adapt to changing situations to improve their effectiveness. Could practicing and observing role-play interaction help us to achieve that insight? By looking at problems from shifting perspectives, actors may train their abilities to adjust their professional style and skills to changing circumstances and varied interests. De Caluwé, Hofstede, and Peters (2008) posit that the effects of simulation gaming can be assessed with criteria that depend partly on the iteration of decisive moments, when action of players is required and on how players are guided through the course of game events. This requires a good insight in work procedures and needs, for both the design and moderation of games. How can we mobilize the required knowledge to define those performance criteria and to use them in game design and game effectuation? Immediate performance feedback is a feature of gaming. How essential is immediate performance feedback for knowledge development in complex problem situations of youth care? A constant flow of feedback on action and interaction motivates the players to improve on achievements and stimulates the designer to advance the game model. Using simulation games to consult the right persons on the right moment may counterbalance the often felt lack of inter-professional support on critical, decisive moments in practice (Van Haaster, 2014).

Complexity, performance and the quality of interaction

Effective game design aims at equalizing systems complexity and performance feedback. In the relative open design of simulation games, there is room for circular and reciprocal influence of performance and systems manipulation. Actor behavior is as important to success as the quality of model design. The complexity of a game is inversely related to the performance

quality of the player's interaction. The change of youth care problem situations toward more preferred conditions and chances can only be achieved through high standards of reflection-in and on-action. What could online simulation gaming do for processes and effects of collaborative thinking about problems and their solutions? The proposition in this article is that network exchange about complex youth care problems becomes more effective and efficient when reflection-in-action is alternated by joint reflection-on-action³ in online simulation games. Knowledge construction by the actors is the added value and the sensemaking claim of simulation gaming in professional youth care networks (Van Haaster, 2014).

Process-driven game design

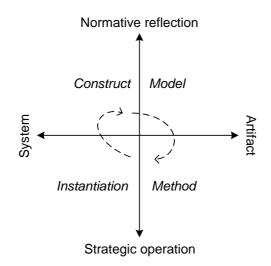
In accordance with the finding in the above referred research, we propose to use principle-based, actor-oriented and process-driven games, as opposed to rule-based games (Klabbers, 2009). Most games are end-state driven: the players are supposed to strategically follow more or less strict rules and to attain predefined goals. Principle-based games enable free-form play and aim at the unfolding of narratives and scenarios, and at the elicitation and sharing of situational knowledge and expertise. Role-play in a game-like environment allows the testing of ideas and strategies that help to break through deadlock situations. Network interthinking, sociocultural discourse analysis, strategy speculation and scenario development are key activities of network exchange and can be transmitted to the safe and secluded environment of online simulation gaming.

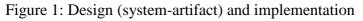
To remain close to the prevailing conditions in youth care practice, the design and implementation of online simulation gaming benefits from a strong involvement of all stakeholders⁴.

³ The significance of sequences of reflection-in-action and reflectionon-action is extensively explained in Kolb (1984) and Argyris (2002). Reflection-in-action refers to thinking as a more or less subconscious process of acting, and to responding to triggers, information, patterns and confirmations within the frame of action itself. With reflection-on-action we mean retrospective and prospective thinking about processes of intervention. In real life it can be hard to mark the dividing line between reflection-in-action and reflection-on-action.

⁴ Care workers, clients and social and professional networks around families.

This includes the construction of game artifacts and the definition of game models, as well as the choices of method and effectuation (Figure 1). We propose to discern construction and application as interdependent, however different levels of online simulation gaming. Construction deals with choices of model development, while application concerns normative reflection and strategic operation. Alternating the positions of practitioners and observers serves design and implementation. It links systems information from practice to artifact design. And it bridges normative reflection to strategic operation. We argue that this approach builds confidence and commitment to change. The dimensions of model development (*system-artifact*) and model appreciation (*reflection-operation*) help to evaluate and analyze both the design of a game model and its functionality to serve program objectives of network exchange.





(reflection-operation)

The argument of aligning the positions of practitioners and observers is rooted in the above model. The structuring idea is adopted from a model by March & Smith (1995), containing the above four inter-related outputs of construct, model, method and instantiation (realization). The knowledge dependent character of youth care problem-solving demands to integrate results of

Journal of Simulation/Gaming for Learning and Development

intervention (practitioning) in the analysis of processes and performance (observing). Obviously, actors may alternately assume both positions. Online simulation gaming, in our view, builds around the axes of design of systems information in game models and analysis of user-experience in sessions. Its logical consistency is obtained through the collective iteration of constructing, modeling, methodizing and realization. Constructs define the vocabulary of the problem and its situational details (Schön, 1983). Models are abstract representations of real world problems. Herbert Simon (1969) speaks of the design problem and its solution space, to indicate the relationship between problem situation and game design. Constructs and models help to understand the interrelatedness of problems and solutions, which is essential to develop theories of normative intervention. Method design needs practice codes and process prescriptions, as constructs applied in models. Instantiation concerns prototyping and testing in sessions and includes briefing and debriefing. The accuracy of these steps is vital to knowledge construction in network exchange about tricky youth care problems. High levels of accuracy can be achieved by applying the above ideas in a practical approach of simulation gaming for youth care network exchange.

The Virtual City of Cyberdam

Before proceeding with a practicable method, a short introduction of Cyberdam⁵ might be useful. Cyberdam⁶ is an application that allows users to build and control games for online role-play simulation. The application is simple in use and supports easy access to allow youth care professionals to develop their personal games. There are two parts: a city map with clickable objects, leading to a repository of websites, and a game engine that affords the design and re-use of simulation games. The city map and directory of websites, covering information about persons,

⁵ Cyberdam is a virtual learning environment as well as a virtual city for online role-playing games in the context of a 2D virtual city, or any other graphical representation.

⁶ Cyberdam has been developed in cooperative partnerships of institutions of higher education in order to develop simulation gaming for training and problem-solving. The environment is based upon open source software.

households, organizations, firms and events, go along with an elearning suite that enables the design and utilization of simulation games for training, change and education. Games are created in the web-based application and involve asynchronous, workflow-based interaction between players, or groups of players, engaged in roleplay activities. In Cyberdam anyone can build a game to explore a predefined problem case, in an arrangement of self-selected network actors. This can be done by using readymade templates or by adapting proven models to new situations.

Network interaction in simulation sessions resembles normal work procedures and communication as much as possible. Distinctive features are role-play, game elements and multimedia communication (text, sound, images, video, e-mail and chat). Roleplay may provoke empathy with different actors in problem situations, encourages experimentation, and can help actors to focus on specific role tasks, perspectives, strategies and disciplinary knowledge.

It might be difficult to get a complete picture of the functions of the application and to understand the dynamics of a game, outside the sphere of playing⁷. Nevertheless, it is our intention to provide a brief impression by describing the main features. Figure 2 gives a glimpse of the game environment⁸.

⁷ This is true for all sorts of game and play. Just showing the chessboard and pieces and explaining the rules may not be enough to fully understand the possibilities and potentials of chess.

⁸ For more details, please visit games.cyberdam.nl (the playground environment) and the support site <u>www.cyberdam.nl</u> (examples of game model design). Please note that non-authorized persons cannot see actual games and sessions.



Figure 2: Glimpse of the simulation environment

Easy access, co-construction and sharing

The central idea is that any person must be able to make a simulation game for his or her own purpose. Designing a game can start with a bothering practice issue or dilemma. By following a number of steps in a template, available in the application, it is possible to work out all necessary game artifacts. A game model comprises a limited number of roles, relevant to the issue and the situation, and an activity grid that structures the course of the game across levels, stages and activities. The game developer may decide who to recruit for participation. A tested game may be presented to a number of experts, who respond from adopted role perspectives. A constructed game model can remain hidden for others, for instance to protect the confidential character of its content, or made public for use in other contexts.

Notwithstanding its easy access, designing games can be a complicated affair that needs training and expert guidance⁹. The defy lies more in understanding the intricacy of practice problems, and not so much in the construction of a game. Online simulation

⁹ Trainings and expert help can be provided by the community of game developers (see www.cyberdam.nl)

gaming is not an end in itself. The ultimate goal is problemsolving. The use of online simulation gaming demands to rethink and re-organize processes of informing, reflecting and decision making. The application has been subject to scientific evaluations of usability, usefulness and effects, and the results show that the main benefits concern the enhancement of personal time management, work organization and the development of interpersonal networking skills for strategic negotiation (Mayer, Bekebrede, & Stegers-Jager, 2007; Warmelink & Mayer, 2009 (eds.); van Haaster, 2014).

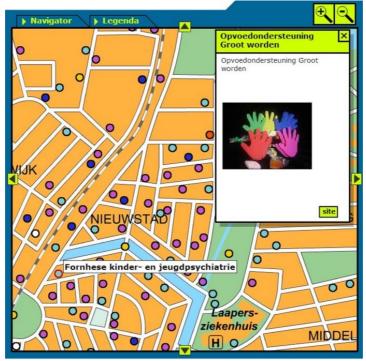


Figure 3: Cyberdam city map with clickable objects

Playgrounds, game models, and sessions

The Cyberdam application consists of *playgrounds* (see Figure 3) with game *artifacts*, that can be traced back in a game *directory* of websites and files. These resources can be explored without logging in. The other part consists of *game models* with tools for the preparation and effectuation of *game sessions* and

affords access to authorized persons only. Game developers have access to models, administration and the registration of session members. Players and (authorized) non-participating observers have access to game sessions. A playground, such as a city map, is the starting point for game sessions and represents a context that is relevant to a field of application. A directory with role and object descriptions, websites, documents and other artifacts, provides all information that is necessary to participate in a session. Artifacts are designed for a particular game; however, they can be re-used in other models.

A game model implies a template that specifies roles, phases, activities and variables. Users may work with earlier developed models and artifacts for their own purposes. The application encourages co-construction, collaborative learning and the sharing of expertise. Session administration affords the developer to connect a certain game model to playgrounds, players and sessions. A session-role can be assigned to a single player or to a team. Briefings and debriefings, in which instruction, evaluation, learning and transfer take place, support the game process. The game master, who is the facilitator and moderator, starts and ends the game. His/her task can be restricted to the functional guidance of players or could be more comprehensive, with arbitration and active intervention. Each player has a personal homepage with all tools and data to fulfill the tasks. The homepage serves as a hub for interaction with other players in a session (Figure 4).

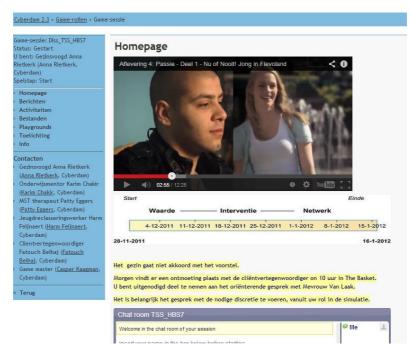


Figure 4: Illustration of a player's homepage in a session

Systems overview of Cyberdam

In Figure 5 we display a systems overview of the main functions of the Cyberdam application. All of the above features can be accommodated in the six boxes with systems functions. The upper boxes relate to game development and moderation strategy design. The lower refer to session effectuation (Figure 5).

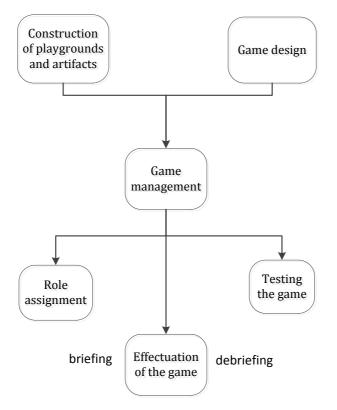


Figure 5: Systems overview Cyberdam

Some practicalities

Sessions can be played in a relative short term of 2 or 3 hours. Or they can be spread out over several weeks with various login moments. Time-investment depends on problem case, tasks and on agreed planning. Sessions of the same game may be repeated with different groups of actors. Participants can be recruited among care professionals or from social networks of context and content experts. It is easy to work together across disciplines and sectors, or to mix actors from practice with students or researchers. The application allows optimum flexibility. It is easy to change parameters, even during the runtime of a session, in order to test the efficacy of the model or to evoke certain interaction and behavior. All session information in the database can be made available for analysis and improvement of proficiency. Even though it seems obvious to make a clever use of contemporary media and methods for network exchange, in most

youth care practices digitalization of work procedures may be problematic. Innovative concepts and methods ask time, energy and structural commitment. Simulation gaming requires tutor capabilities that anticipate and react to the fast and interactive behavior of participants. The necessary skills may not yet be available in youth care organizations.

Reflection-in-action and Reflection-on-action

We propose to use the three stages approach for the implementation of online simulation gaming in youth care practices (Van Haaster, 2014). The method covers co-construction of artifacts, definition of the game concept and effectuation of game sessions, with briefings and debriefings. The analysis of the problem situation (life world) and the collaborative reflection (game world) is essential to reach a sufficient level of practicality in the transfer of outcomes (future world). The functionalities of reflection in and on action, in view of changing problem states into more desirable ones, have extensively been discussed in literature. Many theorists in the fields of gaming and simulation, workplace learning and intervention argue that the analysis of patterns of action-to-knowledge and knowledge-to-action is essential for organizational change and problem-solving (Schön, 1983; Parton & Marshall, 1998; Argyris, 2002; Boonstra & De Caluwé, 2006; Crookall and Thorngate, 2009; Klabbers, 2009; van Yperen & van Woudenberg, 2011; Hortulanus, 2011). Despite the ambiguity and slipperiness of the concept of knowledge, we may agree to the fact that thinking about action (reflection) is the key to understanding problems and solutions.

The three stages of configuration, implementation and evaluation

To handle the alternation of acting and thinking, we follow the three-stages approach of configuration, implementation and evaluation¹⁰. The main elements and relationships are displayed in Figure 6.

¹⁰ For a complete apprehension of the method, we refer to the empirical framework (chapter 6.4) in the above mentioned research publication

Journal of Simulation/Gaming for Learning and Development

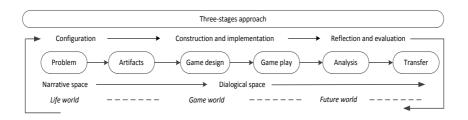


Figure 6: Three stages approach to youth care simulation

gaming

The method combines narratives and dialogues in all processes of design, execution and sensemaking. Narratives about events, experiences, and future plans receive more attention in the first half of the process. Dialogues gain more importance during session effectuation and the evaluation of results. The phases of configuration, implementation and evaluation offer plenty of opportunities to bridge positions of practitioners and observers. Concerted analysis of problem states and session performance helps to justify strategies of intervention toward preferred development. The method can be used to shake up jammed positions and to explore potentials of situations and networks, and to prepare for the best possible interventions. The database with session results enables to freeze the social dynamics and variability of interaction to study network performance and to make suggestions for enhancement.

Complexity and simplicity

In systems theory complexity and simplicity are closely related. Simple systems can generate complex forms and we want to know whether complexity can be brought back to simplicity. This may apply also to social problem-solving. The complexity of youth care problems tends to increase in proportion to the diversification and interdependence of systems elements. Could online simulation gaming be a suitable way to handle troublesome and complicated affairs from youth care practice in favor of transparency and options for improvement? Online simulation games are in fact simple interfaces, representing parts of the complexity of real life. Can they help to assess complexity in

problem situations and to understand the effects of intervention? By unravelling systems elements of difficult practice issues, we are able to construct artifacts and game models. This unraveling may enlarge our understanding of the situation and advance our abilities to make justified decisions of intervention. Role-play requires apprehension of relationships and encourages discourse participation, which is another goal in youth care practices. Finally, analyzing and dialoguing session processes and results are a strong asset of online simulation gaming for the preparation of social intervention. These three levels of performance entail a good study of the analogy of the worlds of practice (understanding complexity), game play (discourse participation) and future progress (the commitment), which may lead to better comprehension of the effects of intervention.

Balancing action and reflection

It is vital to consider the equivalence of action and reflection and to be attentive to substantial contrasts between reflection-in-action and reflection-on-action. We may study action and reflection as simple *input*, *throughput* and *output* models. Thus, discerning situational cognition (input) from action and interaction (throughput), and from effects (output). This model helps to establish the connectedness of action and reflection in sequences of occurrence, in order to navigate toward positive change in complex youth care situations, and to gain insight in network proficiency (Figure 7).

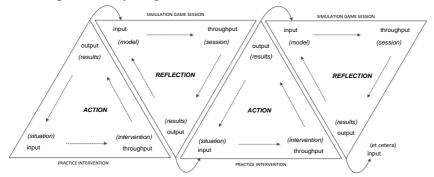


Figure 7: Reflection-in-action and reflection-on-action

Output from practice (action) can be regarded as input for reflection. Reversely, output from sessions (reflection) can serve as input for next steps of action. Input concerns all sorts of situational and network information and depends on the quality of exploration. Throughput refers to action and interaction in response to input. Throughput is contingent on constructs and models used, and on the constellation of actors, their capabilities, personal styles, behavior and skills, and their commitment to change. Output is the result of evaluations of processes and performances, both in practice and in sessions. The output quality is determined by systems analysis, preferably through methods of dialogue. The objective of this approach is to examine and evolve the double strands of action and reflection, in order to understand the "DNA" of a problem situation and its potential growth and development. The abilities of exploration (input), acting and thinking (throughput), and effects and evaluation (output) are the foundation of the progression in problem situations and in online sessions of role-play simulation games.

Applying this method may affect three levels that are crucial for social problem-solving. They concern situational cognition, network participation and accountability of intervention¹¹. The 1st level concerns the investigation of problems and the broadening and transparency of situational cognition. The 2nd level brings up the strengthening of network capacities, capabilities and discourses. The 3rd level is directed to justifying choices of intervention and strategy, and addresses vision on future change, the evocation of responsivity, and aspects of management and accountability.

Transforming Youth Care Network Exchange

The transformation of Dutch youth care systems aims at more efficacy of help and local support and at better cooperation and coordination in networks. The underperformance is alarming, not only in view of risks for children and families; however, also with respect to societal confidence in professional youth care service. We need inspiring ideas about what must and can be done

 $^{^{11}}$ These levels of performance have been extensively elaborated in Van Haaster, 2014

to improve performance, and how we can support local teams of social care and help. The transition of finance and control to local municipalities leads to the challenge to reinvent youth care services. We have to find new, fresh and lean alliances of cooperation and coordination and better methods and tools for effective local support and intervention. We need to strengthen the problem-solving capacities in networks and professional chain cooperation, in particular in intricate multiproblem situations. One of the problems is the lack of time to thoroughly explore developmental chances and options for intervention in complex contexts (Van Haaster, 2014). Professionals need more opportunities to jointly reflect on values and the accountability of intervention. Sometimes the locally available resources of expertise and situational cognition fall short in finding a breakthrough. In other situations it is crucial to liquefy fixed positions by freeing the imagination and help clients to build positive future scenarios. How can teams and networks become more proficient at sharing information, at engaging the right persons in decision making and reflection, and at designing feasible future change?

In view of contemporary societal changes and demands on youth care services, it is tempting to advance online simulation gaming for the exploration of situational cognition and practical know-how. As to the envisaged increase of self-organizing capacities in social networks and the improvement of network cooperation, the method offers attractive ways to engage all stakeholders. And to enhance participation, even by experts outside the actual practice situation. The method helps to explore and tap explicit and tacit knowledge and to uncover unexpected expertise among the participants. The simulation game is an environment to strengthen participation and to enlarge involvement. It is hardly necessary to stress the value of joint scenario development for the engagement and commitment of all parties, including clients. In situations that ask for a shakeup of cooperation in networks, online simulation gaming can speed up network knowledge acquisition and can brighten up interaction.

Conclusion and Discussion

Although the response and results may be unpredictable, there are good reasons to believe that game session interaction has a positive influence on network quality and intervention. Group decision making on social problems aims at reducing the weight of perception on individual risks, while maximizing the perceived collective social benefits. There are strong indications that simulation gaming can accelerate, intensify and compress processes, relevant to decision making on complex youth care issues. Resolving conflicts through dialogues on positions and perspectives in session interaction seems beneficial to social problem-solving. Simulation sessions can provide rich material and strong involvement in reflective dialogues for the transfer to practice.

In this article a practicable approach of online simulation gaming for youth care network exchange has been elaborated as the alternation of action and reflection. The ultimate goal is to collectively construct situational knowledge and to encourage localized content-driven. authoritative cooperation. Online simulation gaming may create binding trust between actors involved in complex problem-solving. The advantages are clear, as well as some obvious concerns. Designing the right game model for a certain problem context requires expert help. The guidance of players through effectuation and careful evaluation and transfer of results needs to be learned. Smart cooperation in the triad of practice, design, research and education may be a practical response to these serious constraints. There are many unsolved questions. To find answers we have to start experimental and empirical research. If we are committed to the transformation of youth care services into directions of greater effectiveness, we may ask ourselves, whether we care to game, to find out how we can apply games to care.

References

Argyris, C. (2002). Double-loop learning, teaching, and research. Academy of Management Learning and Education 1(2), 206-218.

- Bekebrede, G., Mayer, I., Koppenjan, J., Bruijne, M. de, Voort, H. van der, Kars, M., Scalzo, R., Mastik, H. (2007). Playing with multi-actor systems: evaluating results of the railway district online simulation game in Sieberdam/ROCS. In I. Mayer & H. Mastik (Eds.), Organizing and Learning through Gaming and Simulation. Proceedings of ISAGA 2007 (pp. 17-29). Delft: Eburon.
- Boonstra, J., & Caluwé, L. de (Eds.), (2006). *Interveniëren en veranderen. Zoeken naar betekenis in interacties* [Intervening and changing. Looking for meaning in interactions]. Deventer: Kluwer.
- Caluwé, L. de., Hofstede, G.J., & Peters, V. (Eds.). (2008). *Why do Games Work? In search of the Active Substance*. Deventer: Kluwer.
- Crookall, D. (2010). Serious games, debriefing, and simulation/gaming as a discipline. *Simulation & Gaming* 41(6): 898-920.
- Crookall, D., & Thorngate, W. (2009). Acting, knowing, learning, simulating, gaming. Simulation Gaming, 40(1), 8-26.
- Duke, R. (1974). Gaming: The Future's Language. New York, Sage.
- Fanning, R. M. and D. M. Gaba (2007). The role of debriefing in simulation-based learning. *Simulation in healthcare 2(2):* 115-125.
- Haaster, K.J.M. van (2014). Youth Care Knowledge Exchange through Online Simulation Gaming. Designing and appreciating online simulation games to enhance youth care knowledge exchange. Utrecht: Utrecht University for Humanistics.
- Hofstede, G. J., Caluwé, L. de, & Peters, V. (2010). Why simulation games work. In search of the active substance: a synthesis. *Journal of Simulation & Gaming 41(6), 824-843*.
- Hortulanus, R. P. (2011). Ambivalenties in het sociale domein: opdrachtverlening, professionele verantwoording en impactanalyse: de noodzaak van meervoudigheid [Ambivalences in the social domain: commissioning, professional accountability and impact analysis: the need for plurality]. Utrecht: Humanistics University Press.

- Klabbers, J. H. G. (2009). *The magic circle: principles of gaming and simulation* (3rd rev. ed.). Rotterdam: Sense.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. New Jersey: Prentice-Hall Englewood Cliffs.
- Lukosch, H., Bussel, R. van, & Meijer, S. (2013). Hybrid Instructional Design for Serious Gaming. *Journal of Communication and Computer 10(1), 1-8.*
- March, S. T., & Smith, G. F. (1995). Design and natural science research on information technology. *Decision support* systems 15(4), 251-266.
- Mayer, I., & Mastik, H. (Eds.). (2007). Learning and Organizing through Gaming and Simulation. Proceedings of ISAGA 2007. Delft: Eburon.
- Mayer, I., Bekebrede, G., & Stegers-Jager, K. (2007). Spelend leren in virtuele werelden. Bouwstenen voor online gaming in het hoger onderwijs [Playing and learning in virtual worlds. Building blocks for online gaming in higher education]. Groningen: Wolters-Noordhof.
- Parton, N, & Marshall, W. (1998). Postmodernism and Discourse Approaches to Social Work. In: R. Adams, L. Dominelli, M. Payne., Social work: themes, issues and critical debates (pp. 240-249). New York: Palgrave McMillan.
- Peters, V. A. M. and G. A. N. Vissers (2004). A simple classification model for debriefing simulation games, *Simulation & Gaming 35(1): 70-84*.
- Schön, D. (1983). *The Reflective Practitioner*. New York: Basic Books.
- Simon, H. A. (1969). *The sciences of the artificial*. Boston, MIT press.
- Stoppelenburg, A., Caluwé, L. de, J. Geurts,(2012). Gaming Research in Policy and Organization: An Assessment From the Netherlands. *Journal of Simulation & Gaming*, 43(5), 600-626.
- Warmelink, H., & Mayer, I. (Eds.). (2009). Learning in a virtual world. Reflections on the Cyberdam research and development project. Nijmegen: Wolf Legal Publishers.
- Yperen, T. van., & Woudenberg, A. van (2011). Werk in uitvoering. Bouwen aan het nieuwe jeugdstelsel [Work in

progress. Building a new youth care system]. Utrecht: Nederlands Jeugdinstituut.

Bio-statements & contact details

Dr. Kees JM van Haaster is lecturer and researcher at the HU Utrecht University of Applied Sciences. Correspondence to: Dr. Kees JM van Haaster, HU Utrecht University of Applied Sciences. FMR-ISW, P.O. Box 85397, 3508 AJ Utrecht, the Netherlands. E-mail: kees.vanhaaster@hu.nl