SGLD Vol. 1, No.1 (February 2015), 1-21

© 2015 SGLD & Authors
Journal of Simulation/Gaming for Learning and Development
ISSN 2158-5539
http://www.thaisim.org/sgld/

ThaiSim: Accomplishments, Ideas, and Opportunities

Precha Thavikulwat
Towson University, USA

Songsri Soranastaporn
Mahidol University, Thailand

Abstract *The aim of this article is to furnish contributors to this journal with information about how this journal and its sponsor, the Thai Simulation and Gaming Association (ThaiSim), were founded and where both might be headed. We review foundational ideas (social play, debriefing, computer mediation, and assessment) upon which much scholarly work in simulation/gaming has been based. We argue that effective future contributions must evolve from ThaiSim's historical context and touch base with work that has gone before. We suggest that in the context of Thailand, simulation/gaming may have especially high value in enhancing the teaching of English.*

Keywords: *assessment, computer mediation, debriefing, historical context, social play, ThaiSim*

The Thai Simulation and Gaming Association (ThaiSim) was founded in 2008, in the interval between Thailand's first (1997-2007) and second (2009-2018) 10-year national educational plan. The first plan gave rise to a substantial increase in textbooks and related publications. Results of the plan were assessed by Chatrasuk (2009), who found shortfalls in the quality teaching materials, availability of teacher-education programs, availability of computer equipment, and usage of computers that were available. The second plan calls for establishing an educational technology center to assure educational quality, increasing educational opportunities, and supporting continuous education through print, radio, and television in all its three modes: conventional, satellite, and subscription. The activities of ThaiSim,

with its emphasis on simulation/gaming, may be well aligned with the thrust of the second 10-year plan, considering that simulation/gaming may be used both as a method of instruction and as an instrument of educational assessment.

Simulation/gaming appears to be underused in Thailand. A search on 11 July 2011 of ThaiLIS, the Thai Library Integrated System, a database of Thai academic publications, yielded only 120 articles for the keyword สถานการณ์จำลอง (Thai for *simulation*) and 727 articles for the keyword เกม (Thai for *game*), but 5,022 articles for the keyword การศึกษา (Thai for *education*). Even so the progress of education in Thailand has not been slow, considering that the first writing of the Thai language was in 1283 (Pisarnbutr, 1974); the first school, for children of the royal family, was established in 1871; and the first Thai university, Chulalongkorn, was founded only in 1917.

ThaiSim came to be following an e-mail that David Crookall, editor of *Simulation & Gaming*, sent to many Thai university professors soliciting interest in establishing a simulation and gaming association in Thailand. The respondents to the e-mail agreed to an organizational meeting on 19 July 2008 at the Sriwattana Institute of International Business & Technology in Bangkok, arranged by Songsri Soranastaporn. The 26 attendees at the meeting are as listed in Table 1, and the officers elected at that meeting are listed in Table 2.

ThaiSim organized its first international conference in 2009, which has become an annual event. Table 3 lists the dates and places of its annual conferences.

ThaiSim has shown that it is a viable organization, so the time may be ripe to consider how the association should proceed towards its stated objective of promoting "the effective and responsible use of simulation, games and experiential learning activities in Thailand, particularly in education, training, research, assessment and development" (Thai Simulation and Gaming Association, 2014). Effective promotion requires two activities. The first is to make known in Thailand ideas and innovations developed elsewhere. The second is to apply Thailand's resources to develop ideas and innovations that might be applied in Thailand and other countries. Herein, we contribute to the first and make suggestions for the second.

Our contribution is to review four ideas that have guided much of the international work in simulation and gaming. These four ideas are social play, debriefing, computer mediation, and assessment. We select social play, because this idea is the foundation of the discipline. We select debriefing, because debriefing is often overlooked when it is essential. We select computer mediation, because the computer has become pervasive in education. Finally, we select assessment because the future of our discipline may rest more in the assessment of learning than in the enhancement of learning.

Table 1: Attendees at ThaiSim's Organizational Meeting

Name	Affiliation
David Arnold	The International Parenting Network
Terry Arnold	The International Parenting Network
Pongpat Attano	King Mongkut's University of Technology Thonburi
Supanni Chantkran	Kasetsart University, Thailand
Danai Chatiphod	Mahidol University, Thailand
David Crookall	Université de Nice Sophia Antipolis, France
Suebsai Darathum	ENPEO Consulting Co.,Ltd
Pongchai Dumrongrojwatthana	Chulalongkorn University
Pathomporn Indrangkura Na Ayudthya	Thonburi University, Thailand
Warampa Indrangkura Na Ayudthya	Thonburi University, Thailand
Kalayanee Jitkarun	King Mongkut's University of Technology Thonburi
Suponchet Kerdwanchai	King Mongkut's University of Technology Thonburi
Sitthichai Laisema	King Mongkut's University of Technology Thonburi
Warong Naivinit	Ubon Ratchathani University
Gary Orman	A Better Life Thailand,Chiang Mai
Jiraporn Ounplee	Mahidol University, Thailand
Boonisa Pukmai	Mahidol University, Thailand
Thosporn Sangsawang	King Mongkut's University of Technology Thonburi
Nuttaras Somnam	Thonburi University, Thailand
Songsri Soranastaporn	Mahidol University, Thailand
Thanongsak Sovajassaiakul	King Mongkut's University of Technology Thonburi
Plinchakorn Srinusen	Mahidol University, Thailand
Precha Thavikulwat	Towson University, USA
Manitchara Thongnoi	Ubon Ratchathani University
Ulrich Werner	Asian University Thailand

Table 2: Officers Elected at ThaiSim's Organizational Meeting

Position	Member
President	*Urairat Yamchuti
Executive vice president and secretary	*Songsri Soranastaporn
Treasure	*Pathomporn Indrangkura Na Ayudthya
Publication director	*Kalayanee Jitkarun Thanongsak Sovajassaiakul Pongpat Attano Sitthichai Laisema Anuvat Tengsakul Danai Chatiphod Warampa Indrangkura Na Ayudthya Warong Naivinit
Track chairs	*Pathomporn Indrangkura Na Ayudthya Urairat Yamchuti
Marketing director	*Nuttaras Somnam Warampa Indrangkura Na Ayudthya Jiraporn Ounplee Supanni Chantkran
Web master	*Ulrich Werner Kobchai Worrapimphong
Photographer/reporter	Saichon Prabripou

*Board member

Table 3: Dates and Places of ThaiSim's Annual Conference

Date	Place
20 April 2009	Thonburi University
25-27 March 2010	Rajamangala University of Technology Srivijaya (RMUTSV), Trang Province
24-26 March 2011	Thaiayothaya Business Administration Technology College, Ayuthaya Province
19-21 April 2012	Mahidol University Kanchanaburi Campus
21-23 March 2013	Thonburi University, Bangkok
31March & 1 April 2014	Southeast Bangkok College, Bangkok

Social Play

"Play is older than culture, for culture, however inadequately defined, always presupposes human society, and animals have not waited for man to teach them their playing" (Huizinga, 1950, p. 1). Huizinga's notable observed that play has two forms, the free form of infants and young animals, and the structure form of adults. The structured form is social play, which is:

> a free activity standing quite consciously outside "ordinary" life as being "not serious", but at the same time absorbing the player intensely and utterly. It is an activity connected with no material interest, and no profit can be gained by it. It proceeds within its own proper boundaries of time and space according to fixed rules and in an orderly manner. It promotes the formation of social groupings which tend to surround themselves with secrecy and to stress their difference from the common world by disguise or other means (Huizinga, 1950, p. 13).

The history of social play is very old, for its origin coincides with the origin of culture. The ancient Olympic games is commonly dated to 776 BCE (Herrmann & Kondoleon, 2004; Schöbel, 1966; Yalouris, 1976); GO, the Japanese board game, was invented before 200 BCE, perhaps as early as 2300 BCE (Smith, 2010) or 3000 BCE (Wolfe, 1993); chess was invented in India about 500 CE (Hargrave, 1930/1966); card games can be traced to China in the 13th century (Lo, 2000); and war games can be traced to the early 19th century, when they were invented by Prussian army officers (Glick & Charters, 1983).

Huizinga (1950) points out that social play has two basic characteristics, a contest for something and a representation of something. A contest for something is a game; a representation of something is a simulation. Thus, respecting Huizinga's insights, we could call ThaiSim the Thai Social Play Association and name this publication the *Journal of Social Play for Learning and Development*. Still, the term *social play* suggests a lack of structure, which is not the meaning that Huizinga intended.

Moreover, the literature of the field has advanced beyond Huizinga's limited conception of social play, as a (a) free activity (b) within its own proper boundaries (c) that promotes the formation of social groupings. The literature now encompasses test activities where the participants, desiring a favorable score, are not free to refuse participation or to diverge from instructions (Barach, Satish, & Streufert, 2001; Steuer, 1992; Thavikulwat & Pillutla, 2004), pervasive, hybrid reality games that blur the boundary between play and nonplay (de Souza e Silva, 2009; de Souza e Silva & Hjorth, 2009; Thomas, 2006), and video games where participants play alone (Bartlett, Anderson, & Swing, 2009; Shibuya, Sakamoto, Ihori, & Yukawa, 2008; Williams, D., 2005) rather than with others. Even so, our work retains the two basic aspects that Huizinga identified, contest and representation, thus, gaming and simulation.

Debriefing

To understand debriefing, we must place it with its context. In the context of a simulation/gaming session, debriefing is the third of three successive elements, namely, briefing, activity, and debriefing. For us, a briefing is a structured discussion that looks forward to the activity that follows, and a debriefing is a structured discussion that draws from the activity that has concluded to catalyze the learning that is intended. A simulation/gaming experience consists of one or more sessions (Figure 1). Although many simulation/gaming experiences consist of only a single session, those used in business education often consist of 4 to 12 sessions (Anderson & Lawton, 1992; Rollier, 1992), to allow for progressive complexity and to mitigate problems arising from end-gaming and chance factors (Thavikulwat, 2004). A session with all three elements is complete (Table 4).

Figure 1: Composition of a Simulation/Gaming Experience

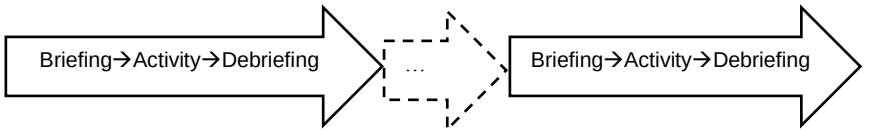


Table 4: Types of Simulation/Gaming Sessions

Type	Elements		
	Briefing	Activity	Debriefing
Complete	Yes	Yes	Yes
Lecture	Yes	No	Yes
Practice	No	Yes	No
Unorganized	No	Yes	Yes
Assessment	Yes	Yes	No

If the activity is omitted, the session is a lecture. In this case, the administrator, as lecturer, introduces the topic at the briefing, describes the activity of interest, and draws conclusions at the debriefing.

If both briefing and debriefing are omitted, the session is practice. In this case, the participants know what to do, why it should be done, and how the performance is assessed, so neither briefing nor debriefing is necessary. The participants perform the activity to gain familiarity, and may do so repeatedly to gain proficiency.

If the briefing is omitted, the session is unorganized, but not necessary unplanned. In a multi-session experience, the participants inherit the organization of their previous session. An unorganized, single-session experience is a leaderless group experience (Bass, 1950). In such an experience, the participants either apply the organization of a previous experience or they organize themselves before the activity commences. The administrator, as facilitator, emerges later to conduct the debriefing.

If the debriefing is omitted, the session is assessment. In this case, the administrator explains the requirements at the briefing and the participants perform the activity as well as they can. Any

immediate benefit that the participants may derive from performing the exercise is incidental to its purpose.

Thus, every element of the complete simulation experience has its place. All three are not necessarily always required, even for a single-session experience.

For exercises that target participants' learning, Lederman (1984) was among the first to make the case that debriefing is essential. She suggested 15 questions for the debriefing that she later distilled into three phases: systematic reflection and analysis, intensification and personalization, and generalization and application (Lederman, 1992).

Other contributions to the literature on debriefing include Steinwachs' (1992) description of a general approach; Stewart's (1992) review of ethical issues; Petranek's (2000), Petranek, Corey, and Black's (1992), and Hill and Lance's (2002) suggestion of writing assignments; Thiagarajan's (1992) suggestion of non-writing activities; and Peter and Vissers' (2004) advise that the nature of the debriefing should vary with the target for learning and the clarity of the performance criteria. More recently, Kriz (2010) has suggested that four family-counseling methods can be useful for debriefing, namely, reflecting team, circular questions, learning diary, and team sculpture. As for questions to ask of participants, he suggest six questions, ordered as follows:

1. How do you feel?
2. What has happened?
3. How are events in the exercise and reality connected?
4. What did you learn?
5. What would have happened if …?
6. How do we proceed from here?

Despite the work that has been done on debriefing, Crookall (2010b) has observed that this element of the exercise is often neglected. Of the 29 presentations at the first annual ThaiSim conference, debriefing was mentioned in the abstract of only one presentation, by Crookall (2009) himself. By the second conference, debriefing was mentioned in the abstracts of four (Crookall, 2010a; Kantamara, 2010; Panijpan, 2010; Somsamai, Saisena, Polprasert, & Somabutra, 2010) out of 45 presentations. By the third conference, however, debriefing was mentioned in 13

out of 66 presentations. So, participants at ThaiSim conferences have evidently become more concerned about debriefing.

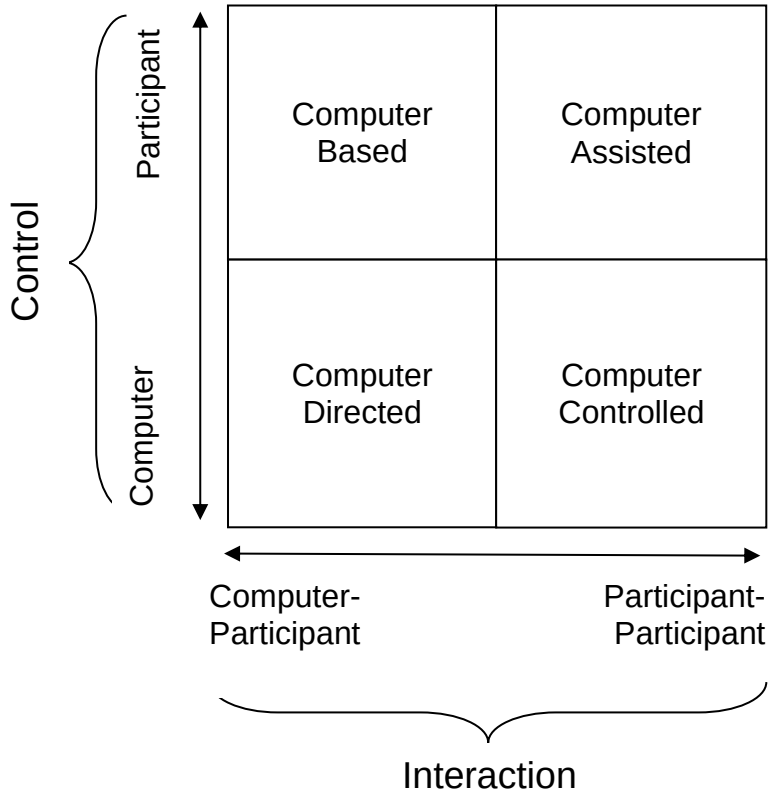
Debriefing may be especially potent when it is included in simulation/gaming exercises used in language teaching. Those who teach languages generally see their task as structured around three Ps, namely, *presentation*, *practice*, and *production*. Presentation means that the student is briefed on the part of the language that the student must master. Practice means that the student applies that part of the language in a controlled fashion, in an activity that may be repeated until performance becomes satisfactory. Production means that the student uses the language in an everyday situation, without control or correction. In this classical conception, language teaching consists of a briefing (presentation) and an activity (practice). Debriefing is omitted, for production is not debriefing. Rather, production is an opportunity that may be present after the lesson is over. Accordingly, if the activity in language teaching were to be a simulation/game rather than the repetitive exercise that this common, and if that activity were to be followed by a debriefing, we would expect that the debriefing should give rise to an improvement in language learning beyond the level that would be obtained with activity alone. A study that uses a simple card game (Reese & Wells, 2007) or that extends the work of Suthothon and Inthanak (2010) with an online multiplayer game could be conducted to test this proposition.

Computer Mediation

Exercises that are long, used repeatedly, require complicated calculations, and designed for large number of participants who may be participating from different locations are good candidates for computer mediation. Depending on the party in control and the parties that interact, computers mediate an exercise in one of four ways (Crookall, Martin, Saunders, & Coote, 1986), as illustrated in Figure 2. The exercise is computer-*assisted* when the computer serves incidental functions, such as facilitating communications, calculating scores, enforcing hierarchical relationships, and tracking the ownership of items exchanged between participants, because the participants are in control and the interactions of participants are with each other. The exercise is computer-*controlled* when the computer imposes administrative

deadlines and rules to the point that participants see their actions as being constrained by the computer rather than by their collective actions. The exercise is computer-*based* when the computer takes the place of other participants, so that participants see the computer as a virtual participant with whom they interact. The exercise is computer-*directed* when the computer animates the exercise, so that participants are able only to choose the segment of the exercise they wish to view and the pace of the animation. Crookall, et al. (1986) points out that when interpersonal relationships are important to an exercise that is computer mediated, the exercise should be computer assisted, rather than computer based, controlled, or directed, because the computer is not an adequate substitute for a person in any human relationship.

Figure 2: Four Types of Computerized Exercises



Assessment

In the context of simulation/gaming, assessment can refer either to a process for evaluating an exercise or to a process for using an exercise to evaluate something else (Anderson, Cannon, Malik, & Thavikulwat, 1998). Exercises give rise to experiences, and "every experience both takes up something from those which have gone before and modifies in some way the quality of those which come after" (Dewey, 1938, p. 27). Inasmuch as an exercise modifies the quality of subsequent experiences, which is to say that it gives rise to learning, the effectiveness of the exercise as an instrument of learning can be studied, and inasmuch as an exercise takes up something from those which have gone before, which is to say that the performance of the exercise depends on the ability of the participants, the adequacy of that ability also can be studied.

Assessment of Simulation/Gaming Exercises

To evaluate the effectiveness of an exercise in a manner that is credible requires a measurement before the exercise is administered and another measurement afterwards. Among the best examples of studies that evaluate the effectiveness of an exercise as an instrument of learning in this way are the 11 studies undertaken over eight years by Gosen and Washbush (2004) on the teaching effectiveness of a business game. Gosen and Washbush found that "there were few easily interpretable results…. For the vast majority of predictor variables, relationships with learning were not significant" (p. 293). The paucity of findings from these rigorous studies suggests that the effect of a single exercise is small. Substantial learning arises only from the culmination of many exercises.

Assessment Using Simulation/Gaming Exercises

As for studies that use a simulation/gaming exercise to evaluate something else, an example is a study that examines the ability of business students, who had passed two introductory economics courses where they had learned about supply-and-demand curves, to use supply-and-demand curves to inform their price-setting decisions (Thavikulwat & Chang, 2011). The variances of the price they set declined substantially when the curves were presented, even though the same information was available earlier in tabular form. The finding is evidence of the

participants' effective understanding of supply-and-demand curves, which had been taught to them in their introductory economics courses.

Many students enroll in business-education programs, so the use of simulation/gaming to assess participants' business acumen, before, within, and after a program of business education, may be especially worthwhile. As such, good assessment may identify the applicants most likely to benefit from business education, the teaching methods that are the most effective, and the graduates most likely to perform well in the workplace. A much-discussed problem of this use of simulation/gaming is free riding, which may also be labeled as social loafing. The two terms are often used synonymously even though they are not strictly synonymous, for free riding is an economics term that implies rational action whereas social loafing is a psychological term that implies emotional inclination. The free-riding problem arises because of the dual character of business activities. First, business activities have well-defined performance criteria, usually sales, costs, or profit. Second, business activities involve collective efforts.

Participants free-ride when they get credit for work that is not theirs (Thavikulwat, 2004), which undermines the validity of the assessment. Free-riding generally cannot be completely avoided in exercises that involve collective efforts, because the incentive that must be present to motivate participants to do well in such exercises also is the incentive that motivates them to look for opportunities to free-ride, an instance of the "tragedy" of the commons (Hardin, 1968) and a vexing concern of many economists, from Adam Smith (1776/1937) to Diamantaras (2009). The free-riding problem is an area of research with implications beyond games.

Free-riding is a social problem. As such, free-riding might be mitigated by instruction and exercises to inculcate into participants values that guide them towards behaviors that are prosocial, or by structuring the exercise to make antisocial behaviors less viable. The possibility of effective values inculcation depends on the setting of the exercise, whereas the possibility of effective structural adaptation depends on the design of the exercise. For a low-stakes exercise administered to a small number of participants who know each other well, a briefing on

etiquette may suffice to forestall free riding (Gunia, Wang, Huang, Wang, & Murnighan, 2012; Treviño, Weaver, & Reynolds, 2006). For more difficult settings, the mitigation of free-riding will have to be structured into the exercise, by methods such as limiting the size of groups wherein all members receive the same score (Biggs, 1986; Brozik, Cassidy, & Brozik, 2008; Cassidy & Brozik, 2009; Fritzsche & Cotter, 1990; Gentry, 1980; Wolfe & Chacko, 1983; Wilson, 1974) and expanding the freedom of participants to select their own groups (Thavikulwat & Chang, 2010, 2012, 2015; Wolfe & McCoy, 2008). The possibility of mitigating free riding by expanding, rather than restricting, participants' freedom to act remains an interesting area of research, with implications that go beyond games.

Conclusion

Social play, debriefing, computer mediation, and assessment are four foundational ideas upon which much scholarly work has been constructed. Some of the work challenges these basic ideas; others extend them. Not much progress is likely to be made by ignoring them.

Having demonstrated its ability to organize annual conferences and publish this journal, ThaiSim is well-placed to make its distinctive contribution to the simulation/gaming discipline. Scholarly contributions are necessarily innovative, so we would be foolish to specify the form that the contributions should take. What we may assert with reasonable certainty, however, is that the contributions must evolve from ThaiSim's historical context and touch base with work that has gone before, the most viable of which may be the four foundational ideas that we have discussed.

In the modern global economy, English fluency is necessary for everyone to function effectively and English fluency will be in especially high demand with Thailand's integration into the ASEAN Economic Community. Fluency requires more than knowing words and rules of grammar, traditionally emphasized in the teaching of English in Thailand. Fluency requires understanding the context in which words are used. The context of language is culture (Neville, Shelton, & McInnis, 2009), of which social play is a pervasive element. For this reason,

simulation/gaming may have especially high value in enhancing the teaching of English.

References

Anderson, P., Cannon, H. M., Malik, D., & Thavikulwat, P. (1998). Games as instruments of assessment: A framework for evaluation. *Developments in Business Simulation & Experiential Learning, 25,* 31-37.

Anderson, P.H. & Lawton, L. (1992). A survey and methods used for evaluating student performance on business simulations. *Simulation & Gaming, 23,* 490-498.

Barach, P., Satish, U., & Streufert, S. (2001). Healthcare assessment and performance: Using simulation. *Simulation & Gaming, 32,* 147-155.

Barlett, C. P., Anderson, C. A., & Swing, E. L. (2009). Video game effects—confirmed, suspected, and speculative: A review of the evidence. *Simulation & Gaming, 40,* 377-403.

Bass, B. M. (1950). The leaderless group discussion technique. *Personnel Psychology, 3,* 17-32.

Biggs, W. D. (1986). Computerized business management simulations for tyros. *Developments in Business Simulation and Experiential Exercises, 13,* 187-194.

Brozik, D., Cassidy, C., & Brozik, D. (2008). Indoamerican Enterprises. *Developments in Business Simulation and Experiential Learning, 35,* 15-27.

Cassidy, C. M., & Brozik, D. (2009). The Ginseng Game. *Developments in Business Simulation and Experiential Learning, 36,* 312-319.

Chantrasuk, T. (2009). *Educational reform for the second ten-year plan (2009-2018).* Bangkok: Office of the Education Council.

Crookall, D. (2009). A cross-cultural introduction to simulation and debriefing: Hands-on participation [Abstract]. *Simulation and Gaming: Overviews and Applications* (p. 11). Conference program of the 1st ThaiSim conference, Thonburi, Thailand.

Crookall, D. (2010a). Games for all seasons: Hands on basic principles. *Learning from Experience Through Games and*

Simulations (p. 22). Conference program of the 2nd ThaiSim conference, Trang, Thailand.

Crookall, D. (2010b). Serious games, debriefing, and simulation/gaming as a discipline. *Simulation & Gaming, 41*, 898-920.

Crookall, D., Martin, A., Saunders, D., & Coote, A. (1986). Human and computer involvement in simulation. *Simulation & Gaming, 17*, 345-375.

Dewey, J. (1938). *Experience and education.* New York, NY: Macmillan.

Diamantaras, D. (2009). *A toolbox of economic design.* NY: Palgrave Macmillan.

de Souza e Silva, A. (2009). Hybrid reality and location-based gaming: Redefining mobility and game spaces in urban environments. *Simulation & Gaming, 40*, 404-424.

de Souza e Silva, A., & Hjorth, L. (2009). Playful urban spaces: A historical approach to mobile games. *Simulation & Gaming, 40*, 602-625.

Fritzsche, D. J., & Cotter, R. V. (1990). Guidelines for administering business games. In J. W. Gentry (Ed.), *Guide to business gaming and experiential learning* (pp. 74-89). East Brunswick, NJ: Nichols/GP Publishing.

Gentry, J. W. (1980). Group size and attitudes toward the simulatio experience. *Simulation & Gaming, 11*, 451-460.

Glick, S. P., & Charters, L. I. (1983). War, games, and military history. *Journal of Contemporary History, 18*, 567-582.

Gosen, J. & Washbush, J. (2004). A review of scholarship on assessing experiential learning effectiveness. *Simulation & Gaming, 35*, 270-293.

Gunia, B. C., Wang, L., Huang, L., Wang, J., & Murnighan, J. K. (2012). Contemplation and conversation: Subtle influences on moral decision making. *Academy of Management Journal*, 55: 13-33.

Hardin, G. (1968). The tragedy of the commons. *Science, 162*, 1243-1248.

Hargrave, C. P. ((1930/1966). *A history of playing cards and a bibliography of cards and gaming.* NY: Dover.

Herrmann, J. J., Jr., & Kondoleon, C. (2004). *Games for the Gods: The Greek athlete and the Olympic spirit.* Boston: MFA.

Hill, J. L., & Lance, C. G. (2002). Debriefing stress. *Simulation & Gaming*, 33, 490-503.

Huizinga, J. (1950). *Homo ludens: A study of the play element in culture*. Boston: Beacon Press.

Kantamara, P. (2010). Leading a successful change: Problem-based learning through a simulation. *Learning from Experience through Games and Simulations* (pp. 26-27). Conference program of the 2nd ThaiSim conference, Trang, Thailand.

Kriz, W. C. (2010). A systemic-constructivist approach to the facilitation and debriefing of simulations and games. *Simulation & Gaming, 41*, 663-680.

Lederman, L. C. (1984). Debriefing: A critical reexamination of the postexperience analytic process with implications for its effective use. *Simulation & Games, 15*, 415-431.

Lederman, L. C. (1992). Debriefing: Toward a systematic assessment of theory and practice. *Simulation & Gaming, 23*, 145-160.

Lo, A. (2000). The game of leaves: An inquiry into the origin of Chinese playing cards. *Bulletin of the School of Oriental and African Studies, University of London, 63*, 389-406.

Neville, D.O., Shelton, B.E, & McInnis, B. (2009). Cybertext redux: using digital game-based learning to teach L2 vocabulary, reading, and culture. *Computer Assisted Language Learning, 22*, 409-429.

Panijpan, B. (2010). Gaming and simulation for science education. *Learning from Experience Through Games and Simulations* (pp. 21-22). Conference program of the 2nd ThaiSim conference, Trang, Thailand.

Peters, V. A. M., & Vissers, G. A. N. (2004). A simple classification model for debriefing simulation games. *Simulation & Gaming, 35*, 70-84.

Petranek, C. F. (2000). Written debriefing: The next vital step in learning with simulations. *Simulation & Gaming, 31*, 108-118.

Petranek, C. F., Corey, S., & Black, R. (1992). Three levels of learning in simulations: Participating, debriefing, and journal writing. *Simulation & Gaming, 23*, 174-185.

Pisarnbutr, D. (1974). *History of Thai education* (condensed). Bangkok: Mongkon Press.

Reese, C. & Wells, T. (2007). Teaching academic discussion skills with a card game. *Simulation & Gaming, 38*, 546-555.

Rollier, B. (1992). Observations of a corporate facilitator. *Simulation & Gaming, 23*, 442-456.

Schöbel, H. (1966). *The ancient Olympic games.* Princeton, NJ: D. Van Nostrand.

Shibuya, A., Sakamoto, A., Ihori, N., & Yukawa, S. (2008). The effect of the presence and contexts of video game violence on children: A longitudinal study in Japan. *Simulation & Gaming, 39*, 528-539.

Smith, A. (1776/1937). *An inquiry into the nature and causes of the wealth of nations*. NY: Collier & Son.

Smith, R. (2010). The long history of gaming in military training. *Simulation & Gaming, 41*, 6-19.

Somsamai, T., Saisena, N., Polprasert, A., & Somabutra, K. (2010). Using a treasure hunt for English language learning. *Learning from Experience Through Games and Simulations* (pp. 41-42). Conference program of the 2nd ThaiSim conference, Trang, Thailand.

Steinwachs, B. (1992). How to facilitate a debriefing. *Simulation & Gaming, 23*, 186-195.

Steuer, E. (1992). Assessment center simulation: A university training program for business graduates. *Simulation & Gaming, 23*, 354-369.

Stewart, L. P. (1992). Ethical issues in postexperimental and postexperiential debriefing. *Simulation & Gaming, 23*, 196-211.

Suthothon, P. & Inthanak, P. (2010). *Effects of integrating game-based learning in teaching English reading skills of the first year Chiang Mai University students.* Unpublished master's thesis. Chiang Mai University, Chiang Mai, Thailand. Retrieved June 17, 2014, from http://ojs.human.cmu.ac.th/index.php/human/article/viewFile/72/93.

Thai Simulation and Gaming Association. (2014). Webpage http://www.thaisim.org/asso/index.html. Viewed 4 April 2014.

Thavikulwat, P. (2004). The architecture of computerized business gaming simulations. *Simulation & Gaming, 35*, 242-269.

Thavikulwat, P., & Chang, J. (2010). Pick your group size: A better procedure to resolve the free-rider problem in a business simulation. *Developments in Business Simulation and Experiential Learning, 37*, 14-22.

Thavikulwat, P., & Chang, J. (2011). Effect on market performance of displaying supply and demand curves in a business simulation. *Developments in Business Simulation and Experiential Learning, 38*, 148-159.

Thavikulwat, P., & Chang, J. (2012). Two free-rider-accepting methods of organizing groups for a business game. *Developments in Business Simulation and Experiential Learning, 39*, 26-34.

Thavikulwat, P., & Chang, J. (in press). Hybrid methods of organizing groups for a business game. *Developments in Business Simulation and Experiential Learning*.

Thavikulwat, P., & Pillutla, S. (2004). The tournament concept in assessment. *Simulation & Gaming, 35*, 5-28.

Thiagarajan, S. (1992). Using games for debriefing. *Simulation & Gaming, 23*, 161-173.

Thomas, S. (2006). Pervasive learning games: Explorations of hybrid educational gamescapes. *Simulation & Gaming, 37*, 41-55.

Treviño, L. K., Weaver, G. R., Reynolds, S. J. (2006). Behavioral ethics in organizations: A review. *Journal of Management*, 32: 951-990.

Williams, D. (2005). Bridging the methodological divide in game research. *Simulation & Gaming, 36*, 447-463.

Wilson, H. K. (1974). Administration: The key to a successful gaming experience. *Simulations, Games and Experiential Learning, 1*, 174-181.

Wolfe, J. (1993). A history of business teaching games in English-speaking and post-socialist countries: The origination and diffusion of a management education and development technology. *Simulation & Gaming, 24*, 446-463.

Wolfe, J., & Chacko, T. (1983). Team-size effects on business game performance and decision-making behaviors. *Decision Sciences, 14*, 121-133.

Wolfe, J., & McCoy, R. (2008). Should business game players choose their teammates: A study with pedagogical

implications. *Developments in Business Simulation and Experiential Learning, 35,* 315-328.

Yalouris, N. (Ed.). (1976). *The eternal Olympics: The art and history of the sport.* New Rochelle, NY: Caratzas Brothers.

Bio-statements & contact details

Precha Thavikulwat (B.S. in mechanical engineering with high distinction, University of Minnesota, USA; Ph.D. in management, University of Minnesota, USA) is professor of management at Towson University, USA; a fellow and past president of the Association for Business Simulation and Experiential Learning; and business area editor of *Simulation & Gaming: An Interdisciplinary Journal of Theory, Practice and Research*. He researches the design of computerized business games and is the author of four computerized business games (MANAGEMENT 500, CEO, DEAL, and GEO) and of GroupMaker, a computer application that assists in managing group projects. Contact: pthavikulwat@towson.edu.

Songsri Soranastaporn is an Associate Professor in English teaching. She has a BN in nursing, an MA in Applied linguistics from Mahidol University, Thailand, and a Ph.D. in Educational Administration and Foundations from the College of Education, Illinois State University, Illinois, USA. Her books include Effective Reading and Writing English Texts and have contributed book chapters to numerous edited collections. She is an expert in English for Specific Purposes. She is the Coordinating Editor of the "Association News & Notes" column of Simulation & Gaming Journal, a Sage Publication. She is the co-founder (2008) and the secretary general of The Thai Simulation and Gaming Association (ThaiSim), which invites scholars around the world to join its international conference every year (www.thaisim.org). She is the President of The e-Learning Association of Thailand (e-LAT), which aims to strengthen, promote, and establish e-Learning quality and standards (www.e-lat.or.th). She is an editor and reviewer of both Thai and international journals and conferences such as Current Topics in Management, The Kasetsart Journal (Social Sciences) at Kasetsart University, the Journal of Language and Culture at Mahidol University, Khonkan University's

International Journal of Humanities and Social Science, RMUSTV Research Journal, International Conference on Advances in Management (ICAM), ThaiSim International Conference, and the International Conference on Computers in Education (ICCE). See "songsrisora.wordpress.com". Contact: songsri.ts@gmail.com.