Designing and evaluating an online role play in conflict management

Stefan Hrastinski
Uppsala University, Uppsala, Sweden, and

Jason Watson
Queensland University of Technology, Brisbane, Australia

Abstract

Purpose – This paper aims to identify, through a literature review, key issues regarding how online role plays can be designed and to apply them when designing a role play on conflict management.

Design/methodology/approach – By drawing on the key issues identified in the literature review, a role play on conflict management was designed and evaluated. Data were collected by developing a survey that focused on perceived learning, participation and satisfaction.

Findings – Overall, a majority of the students felt that they learned and participated in the role play. The most positive finding was that the students were satisfied with their role play experience.

Research limitations/implications – Researchers are urged to further develop the dimensions and measures of online role play success. The measures that were developed for evaluating perceived learning, participation and satisfaction with role plays can be further developed and tested. It is suggested that the effects on learning need to be further explored.

Practical implications – It is suggested that teachers take the identified key issues of online role play design into account. An important challenge seems to be to encourage students to reflect and do additional reading and research in relation with online role plays.

Originality/value – Online collaboration is commonly argued as beneficial from an e-learning perspective. However, a challenge for research and practice is to learn how collaborative e-learning activities may be developed. This paper contributes by focusing on how online role plays can be designed and evaluated.

Keywords Case studies, Role play, Conflict management, E-learning, Sweden

Paper type Research paper

Introduction

It is commonly argued that online collaboration is beneficial from an e-learning perspective. Thus, a challenge for contemporary research and practice is to design collaborative activities, such as role plays, debates and discussions, of high quality. It seems like we have moved from a first stage, where early adopters experimented with emerging technology towards a second stage, where methods and activities for using available technology to support learners are being developed and evaluated. For example, researchers have studied how role plays, which are fully or partly computer-supported, can be used to support learning (e.g. Freeman and Capper, 1999; Wishart *et al.*, 2007). There are several reasons why technology might be useful as support for role plays. First, students gain experience of working collaboratively in online teams. This is an important competence as organizations increasingly collaborate by using online technologies (Dhar and Sundararajan, 2007). Second, online

learners, which do not meet face-to-face, can benefit from role plays. Finally, the management of role plays can be simplified.

In a literature review, Feinstein *et al.* (2002) argue that there is confusion on how to define role play even though they recognize that "most role play is designed to address skills that require interpersonal interaction" (p. 736). Ladousse (1987) has described role as taking part in a specific situation but also emphasized that play means that this should occur within a safe environment that encourages creativity. The role play occurs in a "safe" setting since participants experience how to deal with a problem without the "real" consequences (Chen *et al.*, 2003; Feinstein *et al.*, 2002).

Role plays make more authentic learning experiences possible since learners gain experience and understanding of the social interactions that arise in particular situations, such as during conflicts in teams (Feinstein *et al.*, 2002). It is assumed that students will be more likely to make better decisions in similar cases in the future in their professional lives (Van Ments, 1999). The effectiveness of role plays have been proven in many different fields (e.g. marketing, education, information systems) and has been successfully used for various scenarios (e.g. business ethics, counselling, negotiation training) (Bell, 2001; Chen *et al.*, 2003; Freeman and Capper, 1999). Other examples of scenarios are discussed in the next section.

As with all learning activities, role playing is subject to limitations. Since participants usually are novices in the subject matter it may be difficult for them to act in an authentic way. Therefore, it is important that students are well prepared for the activity (Feinstein *et al.*, 2002). Moreover, students may be anxious and fearful of the role play since they are expected to perform a role while being observed by others (Freeman and Capper, 1999). Students have also reported that "they could not discuss their unique thought and views and assume one of the roles simultaneously" (Zhu, 1998, p. 256).

This paper explores how an online role play on conflict management can be designed and evaluated. Learning about conflict management through role playing seems reasonable, because by experiencing and practicing to resolve conflicts, learning might be taken to another level. When having decided to conduct a role play, issues on how to design and evaluate the role play remained: How may technology support role plays? How may an online role play be designed and evaluated? In order to address these questions, key issues regarding online role plays have been identified by reviewing the literature. The review is followed by a discussion regarding the design and evaluation of a role play on conflict management, which was designed by drawing on the identified key issues. In evaluating the role play, measures on perceived learning, participation and satisfaction were developed. Finally, conclusions and limitations are put forth and opportunities for further research are suggested.

Online role plays: a literature review
A literature review of studies on online role plays has been conducted (see Table I). In all of the reviewed studies, it was decided whether to communicate asynchronously or synchronously, and whether the participants playing the roles were to be anonymous or identified. Role plays might be conducted in various ways. The most common approach has been when students are assigned different roles and then perform these roles in smaller groups. However, other approaches were also identified. For example, in one role play each student plays the role of a physician in an emergency room while

Authors	Participants	Topic	Media	Anon.	Findings
Arvaja et al. (2003)	36 students, age 13	Imperialism	Asynch.	No	"The use of the Web-based environment in terms of shared knowledge construction was rather weak. … Different instructional activities … resulted in different learning activities" (p. 319)
Bell (2001)	14 teachers	Assessment in higher education	Asynch.	Yes	Online role play may be an effective teaching method for complex issues. Anonymity may support involvement. Engagement may be reduced when comparing with face-to-face role play
Freeman and Capper (1999)	21 postgraduate students	Securities market regulation	Asynch.	Yes	"Positive learning outcomes and enthusiastic student and staff reactions suggest that other disciplines would also benefit from a similar innovative use of the web" (p. 95)
Kolloff and Rahimzadeh (2004)	Pre-service and in-service teachers	Shakespear's life and works	Asynch./ synch.	Yes	"(Students used) the term 'real' … more frequently than any other as an overall description of the experience." (p. 390)
Pata et al (2005)	62 students, age 14-17	Environmental negotiation	Synch.	Yes	"The activeness of tutor scaffolding was related to higher frequency of student's task-related discourse acts, as well as their ability to generate a mutually accepted ownership of problem representations in teams" (p. 571)
Phillips (2005)	Nurse educators	Legal and ethical issues of a student appeals case	Asynch./ synch.	?	"Learners responded to (the) role play as if they were involved in a real student appeals case … Overall, the learners felt this was a positive experience that provided a well-developed, active, online learning strategy … ." (p. 43)
Robertson and Good (2003)	60 students, age 10-12	Preparation for writing stories	Synch.	No	"Stories written after the virtual role play contained more indications of characters' relationships … than did normal stories" (p. 6)
Wishart et al (2007)	263 schools, age 9-12	Internet safety	Synch.	No	The learning environment was experienced as motivating and challenging. Pupils empathised and gained an understanding of others. Preparing participants, moderating communication and resolving technical issues are key success factors

Table I.
Examples of studies on
online role play

the chief of medicine, simulated by a computer, watches and comments on the actions of the student (Doiron and Isaac, 2002). In another role play students interviewed an anonymous teacher, whom the students had never met, who played the role of William Shakespeare mediated through a chat system (Kolloff and Rahimzadeh, 2004).

There seems to be a need for further research since the reviewed papers present somewhat conflicting results on the benefits and limitations of online role play. For example, Kolloff and Rahimzadeh (2004) and Phillips (2005) found that most students felt they were part of a "real" experience while Bell (2001) warned that engagement may be reduced when comparing with face-to-face role play. Arvaja *et al.* (2003) argue that the knowledge level of exchanged messages was quite low while Freeman and Capper (1999) reported positive learning outcomes. The most commonly reported finding seem to be a high level of student satisfaction associated with online role playing (Freeman and Capper, 1999; Phillips, 2005; Wishart *et al.*, 2007). Two studies emphasized that teaching style is an important influence on the success of role play (Arvaja *et al.*, 2003; Pata *et al.*, 2005).

A key issue of online role plays seems to be to decide whether they should be conducted anonymously or not. This makes it possible to "hide" characteristics such as ethnicity, gender and age, and may encourage more equal and cross-cultural communication (Chester and Gwynne, 1998; Freeman and Capper, 1999). However, some characteristics, such as whether the participants are native speakers, cannot be hidden. It has been argued that anonymity may encourage participation by shy persons (Bell, 2001) and may support participants in gaining courage to express novel opinions (Connolly *et al.*, 1990). On the basis of a literature review and empirical study, Bell (2001) argues that involvement in online role plays may be enhanced through anonymity. Similarly, Chester and Gwynne (1998) reported that students felt more confident and contributed more when being anonymous. Connolly *et al.* (1990) showed that students working anonymously on an idea-generation task generated more ideas, of an equally high quality, as groups that did not work anonymously. However, the groups where the participants were identified were more satisfied with the group's process and reported a higher self-rating of effectiveness. Even though most students approved anonymous role plays, the anonymous dimension may be questioned for being used in higher education since teachers "expect their students to communicate and defend their ideas" (Bell, 2001, p. 257).

By drawing on the review of online role plays, three dimensions of online role play design can be identified: face-to-face and online, asynchronous and synchronous, and anonymous and identified. These dimensions are summarized in Figure 1. A role play may, for example, include these dimensions to various extents at different stages in the role play.

Designing an online role play in conflict management
The remaining part of the paper discusses the design and evaluation of a specific role play. The topic was conflict management and was part of an on-campus project management course. The design was guided by the dimensions identified above. The objectives of the role play included: to gain knowledge and understanding of different conflict resolution strategies; to gain practical experience at applying conflict resolution strategies; to practice collaboration and cooperation skills.

The role play used a constructivist pedagogical approach and followed Laurillard's (2002) conversational framework. Constructivism, where students construct new knowledge from their experiences, is more readily facilitated in a collaborative environment where learners can validate their perspectives through social negotiation and interaction with an authentic task (Caprio, 1994; Dewey, 1938; Jonassen, 1991; Piaget and Inhelder, 1969; Vygotsky, 1962). Importantly, Jonassen (1991) states that a constructivist approach is particularly appropriate when much of what needs to be learned involves advanced knowledge in ill-structured domains. Laurillard (2002) describes how the complex process of learning can be considered as a "conversation" within a learning framework. This framework is intended to be applicable to a range of academic learning situations and employs the following four strategies:

(1) it must operate as an iterative dialogue;

(2) which must be discursive, adaptive, interactive and reflective;

(3) and which must operate at the level of descriptions of the topic; and

(4) at the level of actions within related tasks.

The role play used a scenario based approach to teaching conflict management adapted from Callanan and Perri (2006). Students were tasked individually, and then as a team, to provide advice and recommendations on how to deal with the conflict described in a scenario (adapted from Callanan and Perri, 2006). The role play employed a jigsaw design to make sure that the group is dependent of all roles (Arvaja *et al.*, 2003). Student's viewpoints were explicitly polarized via enforced role allocation. In order for students to truly collaborate the role play was constructed so that independent contributions from each student were necessary for success of the whole team. In addition, the only way students could attain their own personal goals was if the whole team was successful. Students had access to a knowledge base on contemporary conflict management and undertook four phases as part of the activity (see Figure 2).

In the first phase, each student was allocated to one of the following conflict management styles: accommodative, avoiding, competitive, compromising and collaborative (Thomas, 1983). The second phase of the role-play was conducted anonymously in groups of four or five students. Since the students of each group were
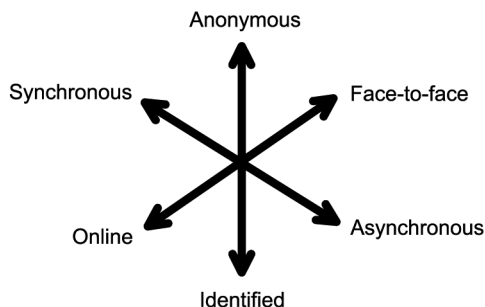

Figure 1.
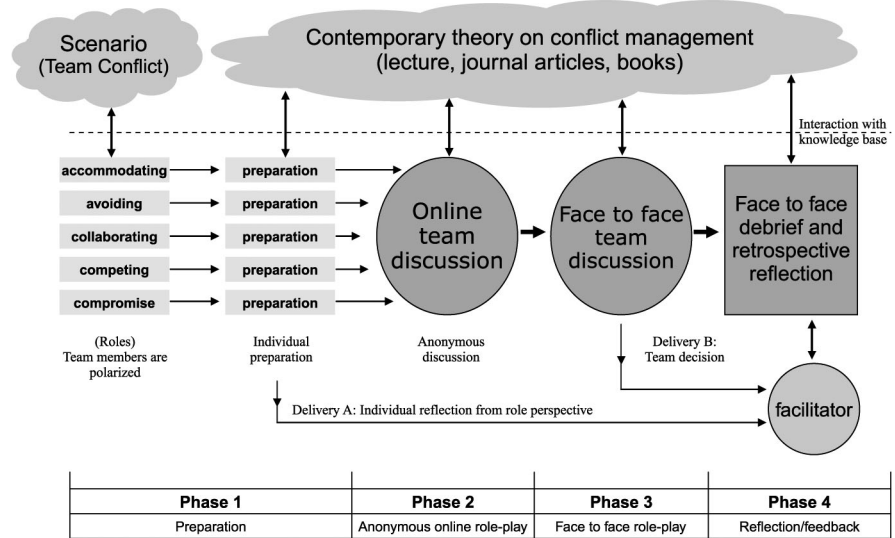Dimensions of online role play design

Figure 2.
Characteristics of team
conflict role play

assigned different conflict management styles, they were dependent on each other to get an understanding of each style. During this stage, each student was instructed to argue from the point-of-view of her or his assigned role. In the third phase, the students were assigned to make a joint recommendation and worked face-to-face. Finally, the recommendations of each group were presented and discussed in class.

Evaluating the online role play

There were seven males and six females in the class and all of them agreed to participate in the study. Their ages ranged from 19 to 33 years, with a mean age of 22 years. Everyone had experience of using chat and six of the students had participated in a role play earlier. There were three role play groups with four or five students in each group. Data were collected through a questionnaire that was distributed when the role play was finished. Three measures were used to evaluate the role play: perceived learning, perceived participation and perceived satisfaction. All items that were measured on a five-point ordinal scale ranging from "strongly disagree" to "strongly agree". The survey data was triangulated with data from open-ended questions on perceived learning, participation and satisfaction. For example, one question was: "Did you feel that you learnt about conflict management through the role-play and the activities associated with it? Motivate your answer!"

A measure on perceived learning was developed by adapting items from several sources: Gunawardena and Zittle's (1997) measure on learning satisfaction; Bates' (2005) measure on learner perceived benefits; and Webster and Hackley's (1997) measure on perceived learning. Initially, the measure included ten items. Two items were removed to achieve an acceptable level of reliability (Cronbach's alpha = 0.71). For example, one item stated: "My attention was maintained throughout the role play".

The measure on perceived participation was developed by adapting items from several sources: Gunawardena and Zittle's (1997) social presence scale;

Haythornthwaite's (2000) items on sense of belonging; Hrastinski's (2006a, b, 2007) measure on perceived participation; Rovai *et al.*'s (2004) classroom and school community inventory; and Webster and Hackley's (1997) measure on involvement and participation. Initially, the measure included nine items. Five items were removed to achieve an acceptable level of reliability (Cronbach's alpha = 0.78). For example, one item stated: "I felt like the participants in the role play worked together".

A measure on perceived satisfaction was developed by adapting items from several sources: Gunawardena and Zittle's (1997) measure on satisfaction; Bates' (2005) measure on learner perceived benefits; and Webster and Hackley's (1997) measure on student attitudes. Initially, the measure included five items. Three items were removed to achieve an acceptable level of reliability (Cronbach's alpha = 0.73). For example, one item stated: "I would like to participate in another role play in the future".

Results and analysis

In this section, the results of the evaluation of the role play on conflict management are presented. More specifically, the effect on perceived learning, participation and satisfaction is explored.

Perceived learning

Overall, the students slightly agreed that they learned through the role play activity (see Table II). The students felt that their attention was maintained (item 1) and that they learnt during the role play (item 8). However, they did not feel that they were stimulated to do research (item 4), which explain why they did not feel they put in a great deal of effort (item 5). Thus, it seems like the role play was experienced as an intense and engaging activity but that a challenge seems to be to encourage students to reflect and do additional reading and research. Since participants were novices in the subject matter, this might have made it difficult for them to act in an authentic way (Feinstein *et al.*, 2002).

When asking students whether they learnt about conflict management through the role play and the activities associated with it, nine students agreed. Most students felt that they learned that a conflict can be addressed in many different ways and valued the opinions of their peers:

> Yes! I especially learnt that the first solution you come up with not always is the best one. There might be alternatives you have to consider and which sometimes may be better (student 3).

	Mean	SD
1. My attention was maintained throughout the role play	4.5	0.5
2. I found that the role play challenged my reflective processes	3.6	0.7
3. My curiosity was aroused during the role play	3.5	0.7
4. I was stimulated to do additional reading or research because of the role play	2.7	1.0
5. I put in a great deal of effort in the role play	3.3	1.2
6. The role play aroused my imagination	3.5	0.9
7. I felt that I was learning during the preparations for the role play	3.5	1.1
8. I felt that I was learning during the role play	4.0	0.9
Total mean	3.6	1.0

Table II.
Perceived learning in the online role play

Two students were not sure and two other students did not feel that they learnt much about conflict management. For example, one student did not feel that she learnt through the chat but "in (the face-to-face) groups there were more open, concrete discussions, which gave more" (student 10) while one student felt that "you experienced conflict management rather than learning about the subject" (student 6). Concerning the last comment, by drawing on Kolb (1984), it might be argued that experience is key to learning.

Perceived participation

Most students felt that they participated in the online role play (see Table III). A majority felt that others acknowledged their point of view (item 2) and cared about each other's opinions (item 3). Even though each student was instructed to argue for her or his point of view, they still felt comfortable.

The eleven students that answered an open-ended question felt that they participated actively in the role play. They felt that they participated by putting forward their own view but also by listening to others. Several students wrote that they enjoyed arguing from their perspective in the chat. However, it is unclear whether participation in the chat was enhanced because of anonymity, even though one student suggested this to be the case: "It was much easier to argue for the perspective you were assigned when you were completely anonymous" (student 3).

Perceived satisfaction

The students especially felt satisfied with the role-play experience (see Table IV). This finding is corroborated by the literature review, which suggested that the most commonly reported finding in previous research is a high level of student satisfaction associated with online role playing (Freeman and Capper, 1999; Phillips, 2005; Wishart *et al.*, 2007). The students felt that their role play experience was fun (item 2). Notably, some of the students did not know whether they would like to participate in another role play in the future (item 1).

The students were asked what they liked and what they did not like about the role play. The most commonly mentioned benefit mentioned by six students was good

	Mean	SD
1. I felt like the participants in the role play worked together	3.6	1.2
2. I felt that others acknowledged my point of view in the role play	3.8	0.6
3. I felt that students in the role play cared about each others' opinions	3.8	1.0
4. I felt connected to the others in the role play	3.6	0.8
Total mean	3.7	0.9

Table III.
Perceived participation in the online role play

	Mean	SD
1. I would like to participate in another role play in the future	3.6	0.7
2. The role play was fun	4.4	0.7
Total mean	4.0	0.7

Table IV.
Perceived satisfaction in the online role play

discussions, which led to a broader understanding of conflict management. Four students felt that it was important with thorough instructions prior to the role play since they were not used to this kind of activity.

The main reason that motivated technology-support for the role play was that students were able to argue in favour for a conflict management style anonymously. Four students mentioned that anonymity enabled more equal participation because they dared to be more frank: "People who usually are shy and do not say much got a chance to express their view" (student 7). Notably, only two students were slightly negative. One student was unsure whether anonymity made any difference and another one wrote that he recognized the others in his group from their style of writing.

Conclusions, limitations and further research

This paper has identified key dimensions for designing online role plays and has provided an example of how a face-to-face role plays may be enhanced by using technology. Overall, a majority of the students felt that they learnt and participated in the role play. A key challenge seems to be to encourage students to reflect and do additional reading and research. The most positive finding was, however, that the students were satisfied with their role play experience, which is supported by previous research (Freeman and Capper, 1999; Phillips, 2005; Wishart *et al.*, 2007). However, the measures that were developed for evaluating perceived learning, participation and satisfaction with role plays can be further developed and tested, especially the measure on student satisfaction that only includes two items.

The advantage of examining a small population is that the role play activity could be examined in more depth. However, a disadvantage is that the results are focused on a small population of Swedish students learning conflict management. Since the study is exploratory, the results are preliminary and need to be tested in other contexts.

Teachers are suggested to take the identified dimensions of online role play design into account. An important challenge seems to be to encourage students to reflect and do additional reading and research in relation with online role plays. Researchers are urged to further develop the dimensions and measures of online role play success. It is apparent from the review and empirical study of this paper that the effects on learning need to be further explored. Moreover, in line with previous studies (Bell, 2001; Chester and Gwynne, 1998), this study suggests that anonymity may induce increased involvement among students, but this issue needs to be further explored.

References

Arvaja, M., Rasku-Puttonen, H., Häkkinen, P. and Eteläpelto, A. (2003), "Constructing knowledge through a role-play in a web-based learning environment", *Journal of Educational Computing Research*, Vol. 28 No. 4, pp. 319-41.

Bates, B. (2005), *Creating an Online Reflection Framework for Learning Environments*, Queensland University of Technology, Brisbane.

Bell, M. (2001), "Online role-play: anonymity, engagement and risk", *Educational Media International*, Vol. 38 No. 4, pp. 251-60.

Callanan, G.A. and Perri, D.F. (2006), "Teaching conflict management using a scenario-based approach", *Journal of Education for Business*, Vol. 81 No. 3, pp. 131-9.

Caprio, M.W. (1994), "Easing into constructivism, connecting meaningful learning with student experience", *Journal of College Science Teaching*, Vol. 23 No. 4, pp. 210-2.

Chen, L.D., Muthitaacharoen, A. and Frolick, M.N. (2003), "Investigating the use of role play training to improve the communication skills of is professionals: some empirical evidence", *The Journal of Computer Information Systems*, Vol. 43 No. 3, pp. 67-74.

Chester, A. and Gwynne, G. (1998), "Online teaching: encouraging collaboration through anonymity", *Journal of Computer Mediated Communication*, Vol. 4 No. 2.

Connolly, T., Jessup, L.M. and Valacich, J.S. (1990), "Effects of anonymity and evaluative tone on idea generation in computer-mediated groups", *Management Science*, Vol. 36 No. 6, pp. 689-703.

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

Dhar, V. and Sundararajan, A. (2007), "Information technologies in business: a blueprint for education and research", *Information Systems Research*, Vol. 18 No. 2, pp. 125-41.

Doiron, J.A.G. and Isaac, J.R. (2002), "Developing online emergency room case study role play for medical students", paper presented at E-learn: World Conference on E-learning in Corporate, Government, Healthcare and Higher Education, Montreal.

Feinstein, A.H., Mann, S. and Corsun, D.K. (2002), "Charting the experiential territory: clarifying definitions and uses of computer simulation, games, and role play", *Journal of Management Development*, Vol. 21 No. 10, pp. 732-44.

Freeman, M. and Capper, J.M. (1999), "Exploiting the web for education: an anonymous asynchronous role simulation", *Australian Journal of Educational Technology*, Vol. 15 No. 1, pp. 95-116.

Gunawardena, C.N. and Zittle, F.J. (1997), "Social presence as a predictor of satisfaction within a computer-mediated conferencing environment", *The American Journal of Distance Education*, Vol. 11 No. 3, pp. 8-16.

Haythornthwaite, C. (2000), "Online personal networks: size, composition and media use among distance learners", *New Media and Society*, Vol. 2 No. 2, pp. 195-225.

Hrastinski, S. (2006a), "Introducing an informal synchronous medium in a distance learning course: how is participation affected?", *Internet and Higher Education*, Vol. 9 No. 2, pp. 117-31.

Hrastinski, S. (2006b), "The relationship between adopting a synchronous medium and participation in online group work: an explorative study", *Interactive Learning Environments*, Vol. 14 No. 2, pp. 137-52.

Hrastinski, S. (2007), "The potential of synchronous communication to enhance participation in online discussions", paper presented at 28th International Conference on Information Systems, Montreal.

Jonassen, D.H. (1991), "Evaluating constructivist learning", *Educational Technology*, Vol. 31 No. 9, pp. 28-33.

Kolb, D.A. (1984), *Experiential Learning: Experience as the Source of Learning and Development*, Prentice-Hall, Englewood Cliffs, NJ.

Kolloff, M.A. and Rahimzadeh, K. (2004), *Distance Learning and Role Play: A Web-Board Pedagogy*, Association for Educational Communications and Technology, Chicago, IL.

Ladousse, G.P. (1987), *Role Play*, Oxford University Press, Oxford.

Laurillard, D. (2002), *Rethinking University Education: A Conversational Framework for the Effective Use of Learning Technologies*, 2nd ed., Routledge Falmer, London.

Pata, K., Sarapuu, T. and Lehtinen, E. (2005), "Tutor scaffolding styles of dilemma solving in network-based role-play", *Learning and Instruction*, Vol. 15 No. 6, pp. 571-87.

Phillips, J.M. (2005), "Chat role play as an online learning strategy", *Journal of Nursing Education*, Vol. 44 No. 1, pp. 43-3.

Piaget, J. and Inhelder, B. (1969), *The Psychology of the Child*, Basic Books, New York, NY.

Robertson, J. and Good, J. (2003), "Using a collaborative virtual role-play environment to foster characterization in stories", *Journal of Interactive Learning Research*, Vol. 14 No. 1, pp. 5-29.

Rovai, A.P., Wighting, M.J. and Lucking, R. (2004), "The classroom and school community inventory: development, refinement, and validation of a self-report measure for educational research", *Internet and Higher Education*, Vol. 7 No. 4, pp. 263-80.

Thomas, K.W. (1983), "Conflict and conflict management", in Dunnette, M.D. (Ed.), *Handbook of Industrial and Organizational Psychology*, Wiley, New York, NY, pp. 889-935.

Van Ments, M. (1999), *The Effective Use of Role Play: Practical Techniques for Improving Learning*, Kogan Page, London.

Vygotsky, L.S. (1962), *Thought and Language*, MIT Press, Cambridge.

Webster, J. and Hackley, P. (1997), "Teaching effectiveness in technology-mediated distance learning", *Academy of Management Journal*, Vol. 40 No. 6, pp. 1282-309.

Wishart, J.M., Oades, C.E. and Morris, M. (2007), "Using online role play to teach internet safety awareness", *Computers and Education*, Vol. 48 No. 3, pp. 460-73.

Zhu, E. (1998), "Learning and mentoring in a distance learning course", in Bonk, C.J. and King, K.S. (Eds), *Electronic Collaborators: Learner-Centered Technologies for Literacy, Apprenticeship, and Discourse*, Lawrence Erlbaum Associates, Mahwah, NJ, pp. 233-59.

Corresponding author
Stefan Hrastinski can be contacted at: Stefan.hrastinski@dis.uu.se