Instructional design strategies for stress-reduced online collaboration in Asia’s high context culture

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Abstract

Online collaboration allows the learners to exchange ideas and views beyond time and space constraints and can improve the richness and quality of learning experiences. It promotes co-construction of knowledge, offers authentic learning contexts, and also enables learners to become more cognitively and affectively engaged. However, there is also evidence that online collaboration presents psychological difficulties or stress for learners. Even though a certain level of stress can stimulate a learner’s physical and mental functions and enhance learning performance, it is generally agreed that persistent or excessive stress leads to negative beliefs, and results in poor learning performance. This paper will explore instructional design strategies that help learners mitigate stress in an online collaborative learning environment in the Asian context, based on the results of a study that identified important factors influencing learners’ stress in online collaboration where English was used as a medium of communication. Four stress factors in English-based online collaboration in a high context culture in Asia are: Self-efficacy, instructional design, technology use, and collaborative process. Instructional strategies to promote self-efficacy, especially language self-efficacy, match Asian learners’ learning styles to online collaboration, reduce fear of using online technologies in interactions, and scaffold and facilitate collaborative process will be offered in the paper. The paper will highlight the importance of considering both individual features of learners and socio-cultural aspects of learning environments in instructional design.
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Introduction

Online collaboration allows learners to exchange ideas and views beyond time and space constraints. It has been proven to improve the richness and quality of learning experiences, promote co-construction of knowledge, and enable learners to become more cognitively and affectively engaged (Kurokami et al., 2001). There is also evidence that online collaboration presents psychological difficulties or stress for learners. Online collaborative learning is often text-based and asynchronous, and the use of the unfamiliar mode of communication may bring about stress. In high context societies like Japan where people feel more stressful without face-to-face communication, text-based online discussions present a great challenge. It is generally agreed that excessive amount of stress leads to negative beliefs, and results in poor learning performance (Akgun & Ciarrochi, 2003).

A study conducted by Jung, Kudo and Choi (in preparation) in a Japanese university context was a venture to identify the stress factors of online collaboration when using English as a foreign language (EFL). The study attempted to discover factors affecting stress of the learners who are in a collaborative learning situation using EFL, identify the co-relation between those stressor factors and learner variables such as major experience in online collaboration and technology skill, and suggest viable instructional strategies to reduce stress in online collaboration. This paper will discuss the findings of the study with a special focus on the four stress factors identified. Then, based on the discussions, it will explore instructional strategies to design stress-reduced online collaboration in a high context culture in Asia.

Stress factors in online collaborative learning in English

The study which was carried out with 226 students from six Japanese universities (Jung, Kudo and Choi, in preparation) in 2010 revealed that there are four stress factors: Self-efficacy, instructional design, technology use, and collaborative process.

Students’ low self-efficacy or lack of confidence in the task and use of English appears to be the main factor causing stress in online collaborative learning in English.

Poor instructional design is also a critical factor affecting students’ stress in online collaboration. Use of inappropriate, or lack of strategies in designing, facilitating and supporting online collaborative teaching and learning environment is a great concern of the students.
Lack of skills or anxiety in technology use is found to be another stress factor for students who are engaged in online collaborative learning. The fear of technical errors and difficulties in applying technical skills appear to be the major concerns.

Collaborative process itself seems to cause stress in online collaborative learning. Students express difficulties in dealing with group decision-making and group dynamics, and lack of support during collaborative learning.

After identifying these four stress factors, the relationship between these factors and the selected learner variables was examined. The selected learner variables include: experience with the Internet, experience with online collaboration, English writing and reading skills. Results show that for engineering/ICT major group, the experience with the Internet and technology use factor were negatively correlated. English reading skill was related negatively with self-efficacy factor. For non-engineering/ICT major group, the experiences with the Internet and self-efficacy factor were positively correlated. The level of experience in online collaboration was correlated with self-efficacy and technology use factors. English reading skill was negatively related with self-efficacy factor for the non-engineering/ICT major group.

The findings suggest four principles to reduce stress and improve learning achievement in online collaboration using English:

1. Promote self-efficacy, especially in English language related tasks before engaging learners in online collaboration in English.

2. Apply teaching strategies that match with learners’ learning style.

3. Reduce fear of using online technologies in interactions, and

4. Adopt appropriate facilitating strategies during the collaborative process.
### Instructional design strategies to mitigate stress in online collaboration

*Table 1* presents specific instructional design strategies that could be applied to design and implement stress-reduced online collaboration for Asian learners in a high context culture.

<table>
<thead>
<tr>
<th>Timeline</th>
<th>Four principles</th>
<th>1) Promoting self-efficacy</th>
<th>2) Matching design strategies with learning style</th>
<th>3) Reducing technology-related fear</th>
<th>4) Facilitating collaborative process</th>
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| Prior to online collaborative session | • Analyse students’ prior learning experiences and language competencies.  
• Plan support for learners with different experiences and language competencies. | • Choose tasks which are appropriate to learners’ needs and learning objectives.  
• Design collaboration structure with specific objectives and outcome statements.  
• Estimate precise and realistic timetable for collaboration.  
• Design reward system related to the desired behaviours. | • Provide short online technology hands-on training.  
• Offer personal technology support to learners with low technology skills. | • Take account of collective cultural expectation.  
• Set clear rules regarding types of collaborative activities and assessments for collaboration that are comprehended by all the learners.  
• Create heterogeneous groups.  
• Assign a facilitator and clearly present individual roles during online collaboration. |
During and initial stage of collaboration

| • Provide frequent encouragement with positive feedback to individual learners. |
| • Offer frequent and timely group support during collaborative group work. |
| • Provide instructor-led activities offering clear direction and expectation for group task aims, protocols and procedures at the initial stage. |
| • Introduce more learner-directed collaboration after the initial, instructor-led activities. |

Evaluation

| • Promote self-reflection of own collaboration through journal writing. |
| • Combine individual and group assessments. |
| • Set clear evaluation criteria. |

| • Assign clear role(s) to each group member for a collaborative task. |
| • Facilitate group activities or encourage active facilitation of the assigned facilitators. |
| • Promote social interactions by providing spaces for social interactions, encouraging profile exchanges, or involved in getting acquainted or ice breaking online activities. |

| • Set up a ‘just-in-time’ online support system (e.g., FAQ) using simple language for both technical problems and problems related to collaboration process. |
| • Offer on-going technology support when needed. |

**Table 1** Strategies to reduce stress of Asian learners in a high context culture in online collaboration using a foreign language
Promoting self-efficacy: Before the online collaborative session, it is crucial to analyse learners’ prior learning experiences in online collaboration, technology use and language competencies and then, based on the result of this analysis, develop a plan for appropriate learner support. Our study shows that among language competencies, writing/reading abilities are the most important. As Lipponen (1999) argues, writing is an essential competency required for text-based online discussion. We can identify each learner’s writing/reading level via a short writing and reading test, a short grammar quiz, or a short survey asking their perceived language level before engaging learners in online collaboration. As Barkley et al. (2005) suggests, we can provide an opportunity for trial collaboration, requiring them to compose an essay in English collaboratively, and identify their writing/reading level from it. Once each learner’s language level and prior experience are identified, needs-based support can be planned. Providing a series of short practice writing and/or reading sessions would be an effective supporting strategy for those with low language competencies and self-efficacy.

Once the session begins, two kinds of supports can be provided to improve self-efficacy of the learners. One is to provide individualised positive feedback or encouragement, and the other is to offer task-related support to each collaborative group. As Bandura (1997) argues, personal encouragement provided to individual learners is critical to improve their self-efficacy. For those with low language self-efficacy, the instructor’s affirmative comments on their postings would encourage learner participation. In addition to the individualised feedback, task-related and timely verbal support that promotes the group members’ belief that the task is within their capabilities, would help group members gain confidence in completing the tasks.

Matching design strategies with Asian learners’ learning styles: Our study confirms that preparing well-structured collaborative tasks, specific objectives and outcome statements, precise timetable for collaboration, and timely rewards to the desired behaviours is important at the preparation stage. A study by Hofstede & Hofstede (2005) points out that Japanese ranks high in Uncertainty Avoidance Index (UAI), indicating that they tend to avoid unclear language. The blending of instructor-led collaboration at the initial stage and more learner-led later can control every suggestion listed above. Collaboration led by an instructor who values and manages the objectives and goals of the collaboration provides valuable learning guidance. At the later stage, learners can take control over their own learning.

Self-reflection can reduce stress for Japanese who are merely expressive in the learning conditions, thinking about reactions from others. The heavy dependency on passive learning prevents them from constructing their own knowledge. The individual reflection can also be effective for sharing their responsibility in a group. The self-reflection in the form of journal or personal note at evaluation stage would provide a valuable opportunity for taking part in the collaboration.
Reducing technology-related fear: Providing short online training units and/or offering personal support prior to collaborative learning seem to be effective to learners with low technology skills. Hands-on practice sessions for skills development or installing support function in the learning management system (LMS) would be useful. Setting up a ‘just-in-time’ online toolkit for both technological problems and those related to collaboration process can also be helpful. The cognitive tools function as scaffolds to assist learners beyond their capability. The online toolkit covers a wide range of problems: technical troubleshooting, advice for collaborative learning strategies, decision-making and time management. The cognitive tools for linguistic problems such as translation (e.g., Google translator) and resourceful online dictionary (e.g., Weblio) are helpful. It is important not to confuse learners by overloading cognitive capacity. The cognitive tools should be placed in order and limited in the media-rich learning environment.

Facilitating collaborative process: In a collectivists’ learning culture, setting clear rules in advance and applying a heterogeneous grouping strategy contribute to group cohesion by helping learners understand the agreed rules and their responsibilities prior to collaboration. During collaboration, Japanese often feel uncomfortable under the open-ended learning. The students from the collectivist culture are passively interdependent, which precludes them from taking individual responsibility in the group. Our study suggests that assigning clear role(s) of each member in collaborative task facilitates group activities. The facilitator will play an important role in monitoring and observing whether the distribution of work is done properly. Another effective strategy to facilitate collaborative process is to ‘promote social interactions by providing spaces for social interactions, encouraging personal profile exchanges, or involve in ice breaking activities’. In a high-context culture, learners face unnecessary tension from the strangers but once they know each other, this tension will ease. A short Skype meeting or a blended face-to-face session will be helpful for this purpose.

Our study suggests that at the evaluation stage, it is important to evaluate both group work and individual performance. As Barkley et al. (2005) suggests, assigning each group to write a group dialogue journal will help assess individual contributions to the group work.

Conclusion

This paper is an attempt to propose a set of design strategies for English-based online collaboration, based on an empirical study conducted in a high context culture in Asia. We hope that our discussions will help university instructors to design and develop an effective and more enjoyable online collaborative learning environment. However, the effects of the suggested strategies need to be empirically examined in high context cultures with regard to reducing stress, facilitating collaboration and promoting learning outcomes. These strategies in Table 1 still need to be elaborated as more specific tactics are applied to different cultural contexts.
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References


