

# The Development and Application of a Social Reading Platform and the Double-level Scaffolding

Xiangdong Chen, East China Normal University, chen\_xiangdong@163.com  
Chen Guo, University at Albany, State University of New York, cguo3@albany.edu

**Abstract:** Social reading is a new mode of reading which facilitates students' reading and interaction, encourage expressions of multiple ideas and promote collaborative inquiry. In this poster presentation, we describe our designs of a double-level scaffolding and a social reading platform. We then present findings of a preliminary experiment conducted to a group of students from a university reading workshop to examine the functionality of the scaffolding and the platform. The results indicate that the participants demonstrated an active utilization of the scaffolding and a relatively high level of acceptance of the platform.

## Introduction

From a sociocultural perspective, reading is a complex process of development that entails a transaction between readers and texts, and the meaning of texts and discourses are varied by different communities (Rosenblatt, 1978). One of the central tasks of reading instruction is to guide students to make sense of printed words and promote their knowledge building process (Hamilton & Paris, 2014). Pedagogical scaffolding can help reduce learners' cognitive loads (Hmelo-Silver, et al., 2007), structure complex tasks (Reiser, 2004), and improve reading comprehension (Fisher & Frey, 2012). When learning tasks reach to a high level of complexity, students may need the aid of different types of scaffolds to support the process of reading and learning.

## Scaffolding and platform design

### The double-level scaffolding

According to Tabak's (2003) distributed scaffolding patterns, we design a synergistic double-level scaffolding. One level of the scaffolding is called "Reading Discussion", another is called "Knowledge Building". "Reading Discussion" scaffolding is built on Taboada and Guthrie's (2004) cognitive strategies for reading comprehension and Toulmin's model of argument (Voss, 2006). It contains six elements: *problem inquiry*, *material support*, *opinion expression*, *opinion elaboration*, *view challenge*, and *summary making*. "Knowledge Building" scaffolding consists of six scaffolds from the Knowledge Forum (Scardamalia, 2002): *my theory*, *I need to understand*, *new information*, *this theory cannot explain*, *a better theory*, and *putting our knowledge together* (Figure 1). The arrangement of two scaffoldings can be adjustable to specific instructional demands and scenarios.

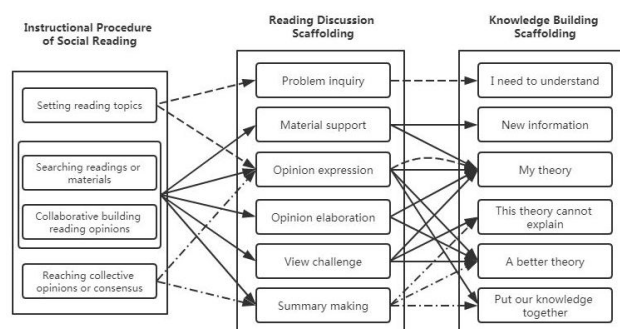


Figure 1. The double-level scaffolding for social reading.



Figure 2. Interface of the social reading platform.

### The social reading platform

Figure 2 shows a sample interface of the social reading platform. The platform has the following characteristics: (1) The setting of two different reading space: "Individual Reading Space" and "Group Reading Space". The former space is designed for individual users to set reading plans, record reading progress, write reading notes and reflections and organize related materials. In the latter space, users can manage group readings, interact and discuss with others, and present information in groups. (2) The function of platform management: Users can make personalized settings, such as add and revise personal information, check reading status and select reading groups. (3) The integration of visualization tools in the platform: Adoption of the concept maps and chromatic nodes and

lines make it easy to clarify the logic and the connections among views and posts. (4) The customization of scaffolding: Instructors can choose to manage the scaffolding in various forms and provide to students according to different instructional or research requirements and contexts.

## Scaffolding and platform application

To examine the functionality of the scaffolding and the platform, sixteen students between the ages of 18 and 33 years old from a university reading workshop were invited for the preliminary application. They were reading a section of a book named *Homo Deus: A Brief History of Tomorrow* by Yuval Noah Harari (Harari, 2016) then. The participants launched a one-week online discussion activity on this book section in the social reading platform. They were suggested to post threads to raise questions, express opinions, add comments to other's posts and share related materials in the topic discussion module in the "Group Reading Space". For the arrangement of the double-level scaffolding, the "Reading Discussion" was designed as the first level and "Knowledge Building" as the second level. We investigated participants' engagement in the discussion activity and their usage of the double-level scaffolding. A total number of 105 posts were collected which covered five main topics related to the book section. We also conducted a brief survey to the participants to know their acceptance of the platform.

## Results

The experiment has three main findings: (1) The participants demonstrated an active discussion engagement (each participant posted 6.56 posts on average) and a relatively high level of collaborative learning and interaction (90% of the posts were add-on comments) during the social reading activity. (2) For the usage of the scaffolding, the most frequently-used scaffolds of the "Reading Discussion" scaffolding and the "Knowledge Building" scaffolding are *View Challenge* (26.42%) and *My Theory* (40.56%) respectively, which can indicate that participants generally had a good level of critical thinking skills and were willing to share personal thoughts and ideas on the reading material. (3) Most of the participants were satisfied with the platform designs and claimed its positive impacts on their reading and the interactions with others.

## Discussion

Although the complexity of the scaffolding and the designs of the platform need to be upgraded and improved, the experiment was not conducted in a standard reading classroom setting as well, this study has some pedagogical and academical implications: First, an online platform for social reading has been developed, which can be a functional tool for the development and organization of collaborative reading activities in either face-to-face and online reading courses. Second, this study proposes a synergistic double-level scaffolding with a firm theoretical footing. This scaffolding can meet the requirements of various types of reading instructions due to its flexibility and versatility. Third, this study provides a case of how scaffolding and online reading platform can be utilized to support collaborative reading inquiry and knowledge building among students.

## References

- Fisher, D., & Frey, N. (2012). Close reading in elementary school. *The Reading Teacher*, 66 (3), 179-188.
- Hamilton E. E. & Paris, S. G. (2014). The Development of Children's Reading Comprehension. In *Handbook of research on reading comprehension* (pp. 56-77). New York: Routledge.
- Harari, Y. N. (2016). *Homo Deus: A brief history of tomorrow*. London: Penguin.
- Hmelo-Silver, C. E., Duncan, R. G., & Chinn, C. A. (2007). Scaffolding and achievement in problem-based and inquiry learning: a response to Kirschner, Sweller, and Clark. *Educational psychologist*, 42(2), 99-107.
- Reiser, B. J. (2004). Scaffolding complex learning: The mechanisms of structuring and problematizing student work. *The Journal of the Learning sciences*, 13(3), 273-304.
- Rosenblatt, L. M. (1978). *The reader, the text, the poem: The transactional theory of literary work*. Carbondale: Southern Illinois University Press.
- Scardamalia, M. (2002). Collective cognitive responsibility for the advancement of knowledge. *Liberal education in a knowledge society*, 97, 67-98.
- Tabak, I. (2004). Synergy: a complement to emerging patterns of distributed scaffolding. *Journal of the Learning Sciences*, 13(3), 305-335.
- Taboada, A., & Guthrie, J. T. (2004). Growth of cognitive strategies for reading comprehension. In J. T. Guthrie, A. Wigfield, & K. C. Perencevich (Eds.), *Motivating reading comprehension: Concept-oriented reading instruction* (pp. 273-306). Mahwah, NJ: Erlbaum.
- Voss, J. F. (2006). Toulmin's model and the solving of ill-structured problems. In D. Hitchcock & B. Verheij (Eds.), *Arguing on the Toulmin model* (pp. 303-311). Berlin: Springer.