The Design of a Portfolio-Based Reading Conversation Platform

Tzu-Chao CHIEN[a*], Zhi-Hong CHEN[b] & Tak-Wai CHAN[c]
[ac]*Graduate Institute of Network Learning Technology, National Central University, Taiwan*
[b]*Graduate Institute of Information and Computer Education, National Taiwan Normal University, Taiwan*
*brian@cl.ncu.edu.tw

Abstract: This paper proposes a design for a socially-purposed learning portfolio, in which students' learning data are collected in a purposeful way in order to motivate them to engage in social interaction. Based on this idea, a conversation platform is introduced, where the student's records, comments, material produced and topics discussed are presented on a profile page to encourage reading-related discussion. Furthermore, the system provides tips adapted for each student to encourage them to join the reading-related conversation based on their individual reading taste and discussion status. The concept of the system design is introduced and opportunities and challenges for the socially-purposed learning portfolio are discussed.

Keywords: conversation groups for reading, reading discussion, computer-supported collaborative learning

1. Introduction

From the viewpoint of social constructivism, knowledge can be repeatedly constructed through interaction with other people having different cognitive structures and cultural backgrounds (Berger & Luckmann, 1967). The emphasis is on the importance of collaborative and experience-based learning. The learning portfolio is deemed an effective tool for reinforcing the power of collaborative and experiential learning, which can encourage self-direction and self-regulation. As defined by Paulson, Paulson, and Meyer: "*A portfolio is a purposeful collection of student work that exhibits the student's efforts, progress, and achievements in one or more areas.*" (Paulson, Paulson, & Meyer, 1991). The learning portfolio is useful as a means of presenting the student's learning status and demonstrating their character through the learning process. The rapid development of information communication technology (ICT) meant that learning portfolios can be applied in various ways to create more opportunities for learning. Their production offers more flexible and effective ways to collect and evaluate the student's learning, which can be applied for both formative and summative assessment and to demonstrate the student's growth and performance.

Reading is also an important way to learn. Learning by reading books is not only an individual activity, but can also involve social cognitive construction. Reading conversation activities provides students with the opportunity to reorganize and reflect upon what they have learned through social interaction. Prior studies on learning portfolios have been primarily concerned with their assessment aspects, with less attention is paid to their social interaction triggering aspects. The purpose of this study is to design a socially-purposed learning portfolio where the student's learning records, process records and productions are collected and used primarily to trigger active social interaction. The effectiveness of the idea is demonstrated by designing a social reading conversation system in which the student's reading records, comments, discussion records and productions are applied as catalysts to motivate their intention to initiate and engage in reading discussion. The following paragraphs will introduce the designed system in detail as well as the potential application of a socially-purposed learning portfolio.

2. Three Tiers of Reading Conversation Triggers

Figure 1 shows the three tiers of reading conversation incentive conditions. The foundational tier is face-to-face conversation, which is the most natural way for people to communicate where students talk about what they have read with each other, sharing thoughts about their favorite books and introducing the stories in the classroom. However, face-to-face reading conversation relies upon relationships in a real-world environment. In other words, the effectiveness of face-to-face triggering will diminish during online communication. To deal with this problem, the second tier for triggering reading conversation includes the personal reading portfolio in the form of the "individual bookshelf". As shown in Figure 1, the individual bookshelf can be seen as a metaphor of a student's reading portfolio. It includes that student's daily reading records, personal comments and productions such as book recommendations (Chien, Chen, Ku, Ko, & Chan, 2015). Based on these profiles, the students' favorites and consensus of opinions can be explored and counted by system algorithms. The detected consensus information can be collected and presented to each student as an incentive to encourage reading conversation. Specifically, the system recommends to each individual student a list of books which they have never read before, but have been liked by other people with similar tastes in reading. The system can also introduce students to a new conversation partner who has the similar reading experiences or reading tastes. The third tier includes the reading conversation group. The groups are comprised of several students who have the same reading interests or learning intention. Each group also produces their own learning portfolio, including a common favorite book list and discussion histories. As in the case above, students can explore and identify the reading groups they might wish to engage their conversation by checking on their group learning portfolios manually, or through recommendations provided by the system algorithms.
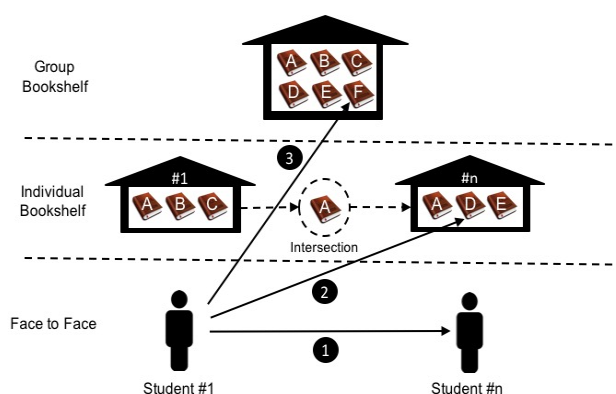

Figure 1. Tier Connections for Reading Conversation.

3. System Design

The designed reading conversation system provides basic reading discussion functions including the posting of articles and replies to others. Information on each student's reading status is collected by the system through a book recording function in which students can record their book using the ISBN (International Standard Book Number). The system will automatically establish a portal page for each book which includes basic information about the book, including author(s), publisher, as well as a brief introduction. All discussions about this book are embedded in this page, so that students can see all topics related to the books read after being recorded. Based on these fundamental functions, some more particular functions are developed. Some characteristics of these functions are introduced separately in the following paragraphs.

In addition to book discussion pages, taking on a similar approach, the system also automatically establishes a reader profile page when the student first registers and logs in with a new account. The reader profile page can be seen as a specific collection of individual information related to the reading portfolio specifically designed for social purposes. The reader profile page provides information about the reader, including recently read books, discussion topics and recently added book-friends. In particular, the reader profile page also presents a pie-chart to illustrate reader's book

taste, so that visitors can consider whether to send a book-friend invitation to this student. The same mechanism is used on the group page. The group reading profile page is presented publicly when people establish a new reading conversation group. Visitors can see some information about this group, such as the list of favorite books and discussion topics, and then they can send a request for membership (see Figure 2).

Figure 2. Profile Page Connections for Reading Conversation.

To facilitate active social interaction, the system provides each student with individually adapted recommendations. When a student looks at an individual profile page, the sidebar of the page will recommend certain books or conversation partners based on their reading and discussion status. For example, each student can see the following sidebars: "*you may like these books based on the books you read/your book-friends*", "*these people are potentially good partners based on your reading preferences/your reading process/your reading discussion*", "*you may like these conversation groups based on the books you like/your conversation partners*".

4. Conclusions

This paper introduces a potential approach for the creation of a socially-purposed learning portfolio. The learning portfolios are intended to trigger social interaction. This idea is applied in practice by designing a reading conversation platform, in which individual and group learning portfolios, such as reading records, comments given, related productions and discussion topics are specifically collected for social purposes. The system algorithms can provide adaptive tips for selecting books and discussion partners based on each student's reading and discussion status. Future work can focus on the collection process for assembling the learning portfolio and the development of system algorithms which are involved with the incorporation of data mining techniques.

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