

## EMOTIONAL CONCEPT MAPS WITH DIFFERENT POINTS OF VIEW: COMPARING DIFFERENCES AT MULTIPLE TIME POINTS

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**Abstract.** Concept mapping is commonly used to represent ideas or concepts in a graphical representation at the knowledge level. However, text-based concept maps (Cmaps) cannot indicate students' preferences or feelings regarding the concepts or propositions. In this paper, I share an innovative experience of applying emoticons to concept maps for students to also communicate at an affective level. Thirteen students enrolled in an interactive e-book design course participated in this activity, which was organized into four main phases. In phase 1, students formed small groups and chose a story topic. In phase 2, each student drew personal Cmaps from the perspective of the role he/she had chosen. In phase 3, students commented on group members' Cmaps by adding emoticons (heart and question mark). Meanwhile, a follow-up question and answer session was held. Emoticons on the Cmaps were used to identify students' preferences or actual thinking on certain concepts, and thus helped them to focus on discussing preferred ideas or clarifying doubts. Students could effectively exchange ideas and resolve conflicting concepts for a coherent storyline. In phase 4, each group drew a final Cmap by integrating the points of view of different roles, and then created an interactive e-book based on the map. It is suggested that adding emoticons and automatic concept map comparisons at multiple time points as new features of the Cmap tools would facilitate the discussion process and help learners observe how the concepts evolve over time.

### 1 Introduction

Concept mapping is commonly used to represent ideas or concepts in graphical representations. However, text-based concept maps (Cmaps) cannot show users' preferences or feelings regarding the concepts or propositions. Users cannot directly notice how others feel about their ideas. Therefore, the advantage of using Cmaps is somewhat limited to a knowledge level, and lacks communication at an affective level. Recently, as the use of online social media (e.g., Facebook) has become widespread, emotional icons (emoticons) have begun to play an important role in communication through technology. Emoticons are traditionally pictorial representations of facial expressions using punctuation marks and letters to express a person's feelings, and have evolved into stylized pictures that do not use punctuation. In this paper, I share an innovative experience of applying emoticons to concept maps for students to indicate how they feel about other group members' ideas. Therefore, concepts or propositions could be revised to address these issues in a more effective discussion process, and a better concept representation could finally be achieved.

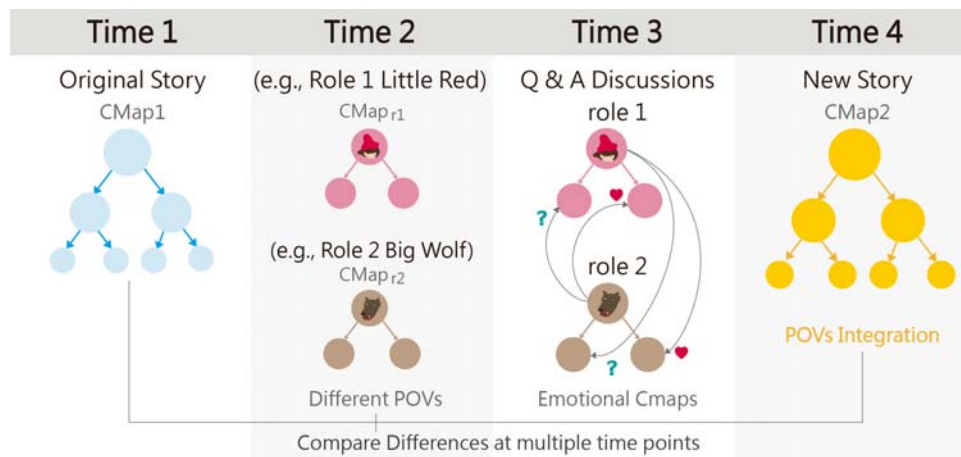


Figure 1. Conducting a story rewriting activity to reflect different role's points of view.

### 2 My Experience

Thirteen students enrolled in an interactive e-book design course participated in this activity. The activity was organized into four main phases (Figure 1). In phase 1, the students formed small groups of two to three and chose a story topic (e.g., "Little Red Riding Hood"). In phase 2, each student in a group drew personal Cmaps from the perspective of the role he/she had chosen (e.g., Little Red or Big Wolf) without discussion. In phase 3, students commented on group members' Cmaps by adding emoticons (heart and question mark) (see Figures 2 and 3). Since CmapTools did not provide functions to insert emoticons, students were told to use any photo editing tool

to add emoticons and to insert numbering icons to mark the storyline sequence. Meanwhile, a follow-up question and answer session was held. For example, one question was marked in Big Wolf's Cmap as "Why did Little Red want to run away from home? And where did she go?" One example for the preference marked with a heart in Little Red's Cmap was "Wolf disliked skinny Red, so he ordered her to eat the expired food." Emoticons on the Cmaps were used to identify students' preference or actual thinking on certain concepts, and thus helped the students to focus on discussing preferred ideas or clarifying doubts. Students could effectively exchange ideas and resolve conflicting concepts for a coherent storyline. In phase 4, each group drew a final Cmap by integrating the different roles' points of view. Based on the final Cmap, each group created an interactive e-book with a new storyline. Furthermore, the students could compare the differences in the Cmaps at multiple time points to observe the concept changes in this creative story rewriting activity.

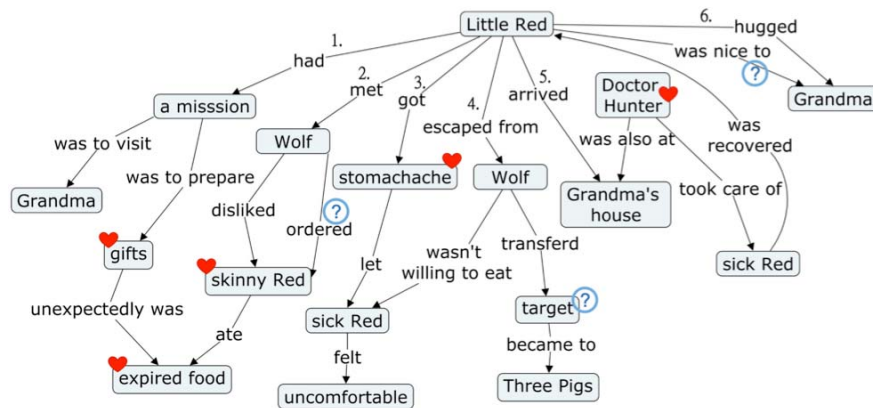


Figure 2. Little Red's concept map with emotional icons.

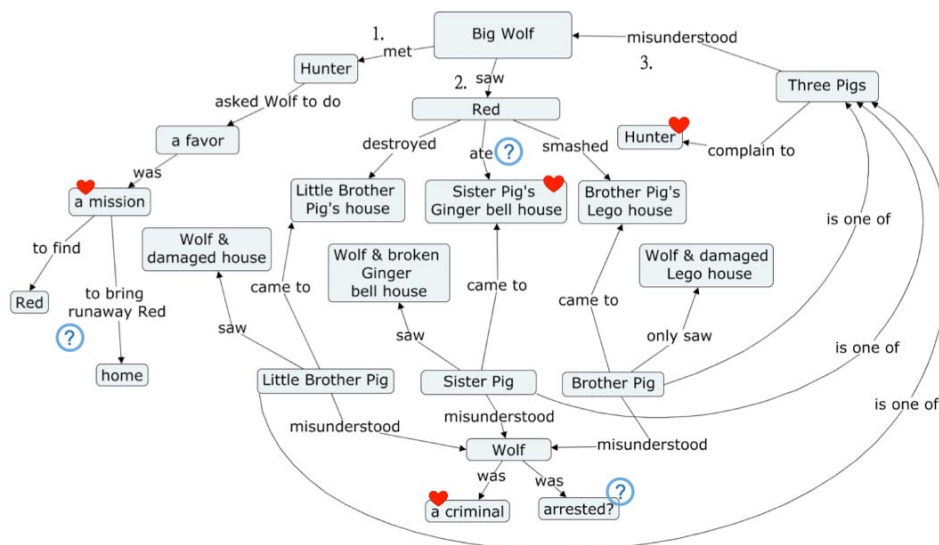


Figure 3. Big Wolf's concept map with emotional icons.

### 3 Suggestions for CmapTools

I think it is really helpful to add emoticons to Cmaps for better communication at the affective level, and this would take the application of Cmaps to a whole new level. Students could quickly grasp a general idea of what others think about their personal Cmaps and focus on discussing preferred ideas or clarifying doubts. Emotional concept maps could also be applied to other learning activities or brain storming sessions, not limited to this story rewriting activity. Therefore, it is suggested that new features such as inserting emoticons and numbering sequences be added to CmapTools. Moreover, new functions to automatically compare and mark concept differences at multiple time points would be helpful to know how concepts evolve over time.