Implementation of a Proposal System of English Essay Outlines

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Abstract: In order to write a persuasive essay in English, it is necessary for especially non-native beginners to compose an appropriate essay outline as a preparation. However, it is a difficult task for such learners with limited knowledge because it requires knowledge of logical development. In order to solve the problem, the purpose of this study is to develop a system that automatically composes and proposes essay outlines to such learners. The system has knowledge on structures of English paragraphs and essays. By referring to both the knowledge and ideas gathered by a user, the system composes several essay outlines which reflect the user’s intention and have appropriate structures, and proposes the outlines to the user.

Introduction

An essay consists of several paragraphs written about a single topic and a main idea. In order to write a persuasive essay in English, it is necessary for especially non-native beginners to compose an appropriate essay outline as a preparation. Moreover, it is desirable to compose more than one outline and compare them from various viewpoints. However, this is a difficult task for such learners with limited knowledge because it requires knowledge of logical development. For this reason, the purpose of this study is to develop a system that automatically composes and proposes essay outlines from ideas gathered by a user. This paper presents the implementation of the system extended from a writing support system (Kunichika et al. 2009) proposing paragraph outlines.

A Support Method of Composing Essay Outlines

The process of essay writing consists of four steps: pre-writing, drafting, reviewing and rewriting. In pre-writing, it is necessary to both gather ideas of what to write and compose an essay outline. In essay writing using our system, as a step of gathering ideas users firstly draw labeled cluster diagrams (Kunichika et al. 2009) in which the relations between two ideas connected by a link are explicitly expressed as labels. Fig. 1 shows a snapshot of the interface to draw labeled cluster diagrams. Next, they select necessary ideas and compose essay outlines. However, novice learners who do not have sufficient knowledge of logical development may not be able to compose appropriate essay outlines. Moreover, they may not be able to compose more than one outline although it is desirable to compose several outlines, compare them from various viewpoints, and choose a suitable outline among
them. Therefore, our system supports such users in composing essay outlines by generating and proposing several essay outlines which reflect users’ intentions and have appropriate structures from various viewpoints.

**A Proposal System of Essay Outlines**

Fig. 2 shows the outline of a proposal system of essay outlines. The system has knowledge on structures of English paragraphs and essays as paragraph/essay development schemata (Kunichika et al. 2009) (Kunichika et al. 2012). The schemata represent typical structures of paragraphs and essays. As paragraph development schemata, we have defined ten types of paragraphs: Listing, Example, Comparison and Contrast, Objective Analysis, Cause and Effect, Opinion and Reason, Definition, Classification, Process and Direction, and Personal Description. Essay development schemata express the structures of eight types of essays: Argumentative, Narrative, Comparative, Cause and Effect, Process, Descriptive, Classification, and Definition. As examples, the structures of Listing paragraph and Cause and Effect essay are shown in Fig. 3. Where, numbers, * and + express the number of repetition, and [ ] in Cause and Effect essay show corresponding paragraph types.

Also, the system is equipped with a paragraph search function, an essay search function, and an outline proposal function. The system composes several essay outlines which reflect users’ intentions and have appropriate structures as follows. The system first composes paragraph outlines as many as possible by using the paragraph search function. Paragraph development schemata represent typical paragraph structures, and a labeled cluster diagram expresses ideas the user want to write. The relations between ideas in a labeled cluster diagram are represented as labels which correspond to the names of components of paragraph development schemata. The system put ideas onto appropriate components by referring to both the label of each idea and the name of a component of a paragraph development schema, and obtains available paragraph outlines. Next, the essay search function retrieves all the candidates for essay outlines. Essay development schemata have the information that which types of paragraphs can be used for each component of essay development schemata. By referring to the relations, the system put available paragraph outlines onto appropriate components of essay development schemata, and composes available essay outlines. Finally, the outline proposal function selects and proposes one essay outline for each type of essay. The system calculates the score of each essay outline based on both the number of ideas used in the outline and the importance of the ideas defined by the user, selects the essay outline with the highest score for each type of essay, and proposes the outlines to the user. Fig. 4 shows one of proposed essay outlines composed from a labeled cluster diagram in Fig. 1. After that, the user compares the outlines, selects one of the best outlines, and then continues writing processes.

**Conclusions**

In this study, we have developed a proposal system of English essay outlines for beginners who have insufficient knowledge of English essay writing. In future work, we will evaluate the system to show if proposed essay outlines adequately reflect users’ intentions.

**References**


