

# Organizing Strategies and Relevant System in Role Based Discussion in Distance CSCL Interaction Activity

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**Abstract**—This paper introduces a new topic in CSCL field. The paper first analyzes the research questions in interaction and points out that for supporting collaborative learning, the computer does not simply provides a information exchange space for collaborative learning, and more importantly, it should provide the strategic guide and promotion for advancing of collaborative learning acts. Then the paper discusses the process of establishing facilitative strategies in role based discussion in distance CSCL from the perspective of instructional organization strategies. It also explores how to develop CSCL prototype tool based on the strategies proposed in the paper.

**Index Terms**—CSCL; interaction activity; strategies

## I. INTRODUCTION

Web-based distance collaborative learning is one of the most characteristic research content. Research on interaction, as the core issue in CSCL and distance CSCL has achieved many products, and many practical system have been developed. However, with the ongoing research, we find that the question how to facilitate collaborative interaction act and bring into full play the synergy effect between interpersonal communications has not been fully and deeply researched.

In our one CSCL course research, we conducted an experiment. The students were organized to have a free discussion. They were required to have real time chat by QQ multi-person chat function to finish their common task without any requirements on their collaboration. Students experienced a period of time and raised many questions about spontaneous discussion. These feedback questions showed that if there is no collaborative system, effective collaborative could not occur. Free discussion often caused confusion and what is more some students are dominant in the discourse while others have no chance to talk, which caused imbalance. In this case, the effect of group stimulating each and inter-thinking can not achieved. In addition, multi-persons talk without any rule often caused discussion contradiction. And as the discourse refreshed quickly, the students have few chances to read and reflect the discourse, therefore, they can not get the main idea of the discussion. It suggests that it can not guarantee the effective collaborative learning if the students simply were brought into the computer-mediated conference with the communal learning objects. One problem arises that in CSCL, the

teacher have no idea of how to guide the students' collaboration and at the same time the students do not know how to collaborate to bring synergy into full play[1].

The students reached an agreement that they need some certain collaborative strategies and the specific rules, or in other words, need to establish some mechanism.

The goal of CSCL theory is to provide the guide for development of CSCL learning platform or environment. With lack of the relevant theory, the current CSCL platform usually provide the functions as group classification, common communication tools, but do not focus on and solve how to effectively facilitate collaborative learning. These platforms are similar to common online communication platform except the functions as group division and grade statistics. They don't provide instructional and non-instructional strategies for advancement to interactive learning. This makes the distance CSCL lose the face to fact interpersonal effect and thus the interpersonal synergy effect based on computer can not be brought into play. And the application potential of CSCL has not fully tapped.

AS seen from the above, the research about the CSCL collaborative and interactive nature and facilitative strategies need to be explored. Such research has the implication for CSCL theory and can advance the development of CSCL, especial is very important to modern distance teaching and learning.

## II. ORGANIZATION STRATEGIES FOR ROLE-BASE DISTANCE CSCL INTERACTIVE ACTIVITY

The facilitative strategies for CSCL interactive action can be explored in terms of two perspectives and levels. From the instructional organization form, the paper will discuss how to effectively organize the CSCL interactive activity by allocating role to advance the collaboration

### 1. Proposal of organization strategies for interactive activity in role-based discussion distance CSCL

Discussion and role play are the importance ways in cooperative instruction.

Stephen D.brookfield combined the two ways to organize the face-to-face cooperative learning to solve the problem in the free discussion[2]. We need to consider

how to allocate the proper roles in distance CSCL so as to bring into play the group synergy effect and also to avoid the problem discussed in the introduction. Based on the Stephen D. Brookfield's research and linguistic research on conversation analysis about turn taking, we propose the principles for role-based discussion for organizing the student's distance interactive learning according to computer text-based mediated communication:

Organization strategies for role-based discussion in CSCL interactive activity aim to enhance the group member's responsibilities and promote the depth and breadth of discussion. The rules as follows:

1. The group members choose their roles with the group leader's organization. There are four roles, that is proponent, questioner, opponent and judge. Their task and limit are:

Proponent: express his ideas or solution, present his product and answer the

questions from other roles and explain his opinion.

Questioner: question the meaning of proponent's statement and point out the contradictions in order to make the proponent explain and refine his idea or product. And questioner should also encourage the proponent to develop his ideas.

Opponent: who provide the creative opposite opinion and evident from the different perspective from the proponent so as to make proponent reflect and improve his opinion or product.

Judge: who examine whether the above three roles have played their role in the activity. If there is statement not from relevant roles, the judge will remind and stop him. He also judge the quality of three roles statements and lead their communication. When there is interruption or forestalling other speakers, it is judge's role to decide who will speak first.

2 After a period time, the group member exchange their role so that each of them play all the four roles in the activities.

3. Each should comment on the relationship to the previous comment from the previous role.(difference or same and implication)

4. Statements and comments should be brief and their QQ message should not be more than 200 words every time.

5 The students can use QQ emotional icon to express the emotion and attitude, but they are not required to use their own created icon, which often cause misunderstanding.

6 Statement and comment should be justified and the opinion should be point to the opinion instead of the person.

Rules 1 and 2 stress the group member's responsibility, mutual benefit and order talk. Rule 3 aims to connect the different statements and produce the reflective effect and to make sure everyone's statements can be cited or taken up to produce self efficiency. This can avoid producing many topics in free discussion in which the group member have no idea to deal with which topic. Rules 4 and 6 are based on the "cooperative principle" in social psychology and try to maximize the

cooperative and efficiency in interactive action. Rule 5 is proposed in terms of the characteristics of online communication.

## *2. Refine and improve the organization procedure of role-based discussion in CSCL interactive activity*

During February and April, 2006 we conducted the experiment in relevant courses. The research process is the cycle of "theory hypothesis- application in course-feedback about the use-modification- application again". The students' feedback and suggestions for modifications were collected after a period of time and then the researcher improved them and applied them in the course again. The students' suggestions were different. And the general trend was that there were less and less suggestions, which showed that the strategies were being improved. To summarize the suggestions as the follows:

- As each group member play a certain role, this gave us the chance for talk and we can play our role fully and take our own responsibility. It guaranteed that each member can participate in the discussion.
- Each member can quickly find out the problem in his own product and the suggestions offered by members are constructive.
- I feel that there is good order and discussion effect has been improved.
- Group members take turn to play different roles in the activity so as to avoid striking conflicts and being boring disadvantage.

The students also pointed out some problem of the strategies. There were three main problem:

- The role is too strict and we can not express our opinions from different perspective.
- Each member needs to play several roles and we need to spend much more time.
- The time for the role's statement is not specific, and we don't know whether the talk should end or who is next speaker, which cause the silence in the discussion.

To solve the problem, the students proposed some more suggestions. There were three more rules:

- There are few roles and the role of an anchor should be added to be in charge of discussion.
- Rule of speaking order should be added or the judge needs to judge who will talk in turn.
- Each speaker should indicate the end of his talk when he finished his speaking.

In the following practice, we further improved the rules based on the students' feedback and a relatively stable and reasonable strategy and rules were formed, as the model for organization strategies for role-based discussion in distance CSCL interactive activity.

Rules for role-based CSCL interactive activity:

1. Group leader or alternative group leader decides the roles of each turn for conversation. There are six roles, that is proponent, questioner, opponent, judge, assessor and anchor
2. duty and limit for each role:

Proponent: offer his ideas or solution, present his product and answer the questions from other roles and explain or argue for his opinion.

Questioner: question the meaning of proponent's statement and point out the contractions in order to make the proponent explain and refine his idea or product. And questioner should also encourage the proponent to develop his ideas.

Assessor: act as the active supporter for proponent and try to find the good points of the speaker's statement and give positive feedback to encourage him.

Opponent: who provide the creative opposite opinion and evident from the different perspective from the proponent so as to make proponent reflect and improve his opinion or product.

Judge: who examine whether the above three roles have played their role in the activity. If his statement not relevant to his roles, the judge will remind and stop him. He also judges the quality of three roles' statements and guide their communication. When there is interruption or forestalling other speakers, it is judge's role to decide who will speak first.

Anchor: organize the collaboration and solve the conflict in the discussion. This role can be acted by group leader, or alternative group leader or judge.

2 After a period of time, the group members' roles are allocated again so that each member can play more than two roles in one collaborative task and play all the roles in the several session of discussion.

3. Each should comment on the relationship to the previous comment from the previous role.(difference or same and implication)

4. Statements and comments should be brief and their QQ message should not be more than 200 words every time.

5 The students can use QQ emotional icon to express the emotion and attitude, but they are not required to use their own created icon, which often cause misunderstanding.

6 Statement and comment should be justified and the opinion should be point to the opinion instead of the person.

7 when the speaker finishes his talking, he should indicate the end. The group can decide the specific sign to mark it( for example, "OK" or "Over")

### III. CSCL PROTOTYPE TOOLS FOR ROLE-BASE DISCUSSION STRATEGIES

Since we have developed an effective facilitative strategies and specific rules for organization of interactive activity, the next question is how to apply these strategies and rule to practice and embodied in the development of CSCL platform or tools to guide the students' collaborative activity. Our thought is to embed the strategies that we have developed into the real time communication space to guide and organize the interactive activity. In the process of collaborative discussion, the speech act types we have summarized and the relevant guide are adopted to guide students' effective interaction.

Figure 1 shows the interface of prototype tool in role-based discussion. The tool does not consider the existing

function that the CSCL system has and place emphasis on the facilitative strategies to support CSCL interactive action. So the feature of this supportive tool is that the member can choose and control the different roles and different speech act types in micro-interaction can be use to guide the students' interactive act. The procedure is that first the students log on to the communication interface to choose different roles (they can change the roles in discussion). They must choose one type of functional speech act to indicate his intention of talk.



Figure 1 discussion interface of distance CSCL supportive tool for role-based discussion strategies

Each member should choose one type of speech act type to express his opinion according his role. Figure 2 displayed one type of speech act that one role used.

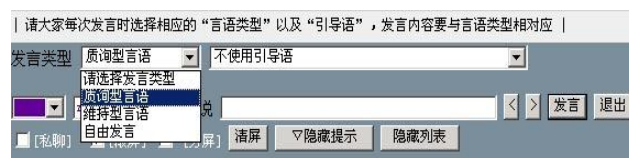


Figure 2 Speech type corresponding to his role

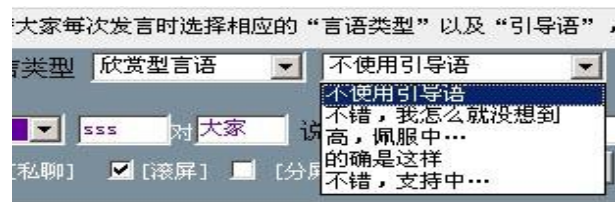


Figure 3 example of appreciative speech act in micro-interactive activity

when the student chose the particular speech act type according to his speaking intention, the relevant examples will appear to this types to guide the student's proper and effective discussion. These examples come from the corpus in the course practice and they conform to cooperative principle and polite principle. Figure 3 shows the example in appreciative speech act in interaction.

The teacher can organize and guide the students' online collaborative learning when applying this tool to the practice. As this tool can provide the relevant strategies that we have developed to support and guide

the students' collaboration, the teacher need not participate in the discussion. The tool can function as organizing and guiding the activity. The teacher can analyze the collaborative process and offer more constructive suggestions for further collaborative discussion.

#### REFERENCES

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