

# A Survey on Metacognitive Strategy Use in College Oral English Study under Internet Environment—With a Case Study of Guilin University of Technology

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**Abstract**—This paper researches on the metacognitive strategies use in oral English study under Internet environment, among the non-English major students of Guilin University of Technology. The writer studies the metacognitive strategy problems existing among the students, which has, to some extent, hindered an efficient and effective improvement or their oral English proficiency. To solve these problems, the writer proposes some suggested solutions on how to develop their metacognitive strategies, in hope that online oral English learning will play a decisive role in improving students' oral competence.

**Index Terms**—metacognitive strategies, oral English study, Internet environment

## I. THEORETICAL BASIS

As is known, metacognition is one major direction of complex mental functions, which refers to one's knowledge about cognition and the ability to manage and direct one's learning and thinking. Only when learners have developed metacognitive awareness, are they able to control their learning process consciously, conducting self-reflection and self-evaluation. O'Malley and Chamot (1990) points out that metacognitive strategies control the use of cognitive strategies and to great extent, the failure or success of learning depends on the failure or success of the use of metacognitive strategies. Metacognitive strategies are important for effective learning.

Metacognitive strategies are sequential processes that one uses to control cognitive activities, and to ensure that a cognitive goal has been met. These processes help to regulate and oversee learning, and consist of planning and monitoring cognitive activities, as well as checking the outcomes of those activities.

Metacognitive strategies play an important role in language learning, as students need to know which strategies to use and when to use them. However, scholars have differed opinions on the classification of metacognitive strategies.

According to O'Malley & Chamot, metacognitive strategies involve thinking about the learning process, planning for learning, monitoring the learning task and evaluating how well one has learned. They are put into three categories, namely planning, monitoring and evaluation. The questionnaire of the present study is on the basis of O'Malley & Chamot's classification of metacognitive strategies.

## II. RESEARCH METHODOLOGY

This chapter will present the method used in the study, research questions, the choices of subjects, as well as the data collection and data analysis.

### A. Research Questions

1. What's the general condition of the use of metacognitive strategies by students learning to speak under Internet environment?
2. Are there any significant differences between male students and female students in the aspect of using metacognitive strategies?
3. What's the correlation between the strategy use and students' learning proficiency?

### B. Subjects of the Questionnaire

The subjects of present study are non-English major undergraduates from Grade 2009 and 2010 in Guilin University of Technology. In order to collect representative sampling, the research adopts randomly stratified sampling method to distribute the questionnaire. There are altogether 186 undergraduates randomly selected to complete the questionnaire and 166 of them were found to be valid (availability rate of the questionnaire nearly accounting for 90%). The participants are from 4 classes in 2 departments ( 2 classes from Civil Engineering Department of Grade 2009 and 2 classes from Department of Management of Grade 2010), majoring in different subjects.

### C. Instruments

A questionnaire is used in the study to collect data. To avoid language barrier, all questions in the questionnaire are translated into Chinese. The questionnaire includes 2 parts. The first part including three items is designed to find out background information of participant, such as grade, major and gender. The second part is composed of questions on metacognitive strategies use under Internet environment.

### D. Data Collection

The questionnaire papers were handed out to the students with the help of their English teachers in June, 2010. Before answering the items, all the subjects received uniform instructions given by the author as to how to fill out the questionnaire in order to minimize confusion. They were informed that the questionnaire was not a test and that their responses would be used for research purpose only. After 20 minutes, questionnaire papers were collected and 166 of them were found to be valid.

Later in July, with the help of the computer, the author accumulated the data of each questionnaire and then calculated the percentage of the data. All these quantitative data will be stated in the next chapter.

### E. Data Analysis

The questionnaire is arranged on a 5-point Likert Scale, which ranges from strongly agree (5 points), agree (4 points), neither agree nor disagree (3 points), disagree (2 points) to strongly disagree (1 point). After the sorting-out of these data, the data analysis is processed in the following steps.

(1) Descriptive statistics analysis is done to know students' general situation of oral English learning based on metacognitive strategies under Internet environment. The percents of the whole questionnaire are worked out.

(2) Percents of each category in the questionnaire are calculated to get specific picture of students' oral English learning based on metacognitive strategies under Internet environment.

The purpose of the study is to find out the use of strategies of non-English major students when they learn oral English under Internet. The results of the questionnaire and the interview will be discussed in details in the following chapter.

## III. MAJOR FINDINGS

The use of metacognitive strategies in oral English learning under internet environment is varied. Yet we can still find something in common in the use of metacognitive strategies. In this chapter, based on the statistical analysis of the data, the results of the questionnaires and the information from the interview will be presented in relation to the three questions of the study one by one.

### A. Overall Analysis of Students' Metacognitive Strategies Use in Oral Learning under Internet Environment

OVERALL DESCRIPTIVE STATISTICS OF STUDENTS' METACOGNITIVE STRATEGIES USE IN ORAL LEARNING UNDER INTERNET ENVIRONMENT

Strategies	Percentage				
	1(%)	2(%)	3(%)	4(%)	5(%)
Objective strategies	3.35	58.38	17.63	13.42	7.22
Planning strategies	2.4	44.48	26.82	21.08	5.22
Organization strategies	5.1	33.88	22.80	29.92	8.3
Monitoring strategies	4	44	23.82	23.08	5.1
Evaluating strategies	59.56	14.48	8.68	15.2	2.08
Average percent	14.882	39.044	19.95	20.54	5.584

The table shows the overall percentage of students' metacognitive strategies use in oral learning under Internet environment. (1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree). Of the 5 strategies, the percentage of using organization strategies is the highest, which is up to 8.3, and the percentage of using evaluating strategies is the lowest, which accounts for 2.08. The percentage of using objective strategies is slightly lower than that of evaluating strategies use. Compared with the former two strategies, the percentage of planning strategies use and monitoring strategies use are almost the same wake, for their scores are 5.22 and 5.1 respectively.

The result indicates that the overall student's metacognitive strategies use in oral English learning under Internet environment is relatively low. The average percentage of meatacognitive strategies use is only 26.124 (20.54% agree, 5.584% strongly agree); however, more than half of the students (39.044% disagree, 14.882% strongly disagree) don't employ metacognitive strategies when they practice oral English under Internet. Generally speaking, the students lack awareness of using strategies to help them learn and they learn aimlessly without specific goals, let alone monitor their learning process and do self-evaluation.

### B. Differences between Male Students and Female Students' Metacognitive Strategies Use in Oral Learning under Internet Environment

OVERALL STATISTICS OF MALE STUDENTS' METACOGNITIVE STRATEGIES USE IN ORAL LEARNING UNDER INTERNET ENVIRONMENT

Strategies	Percentage				
	1(%)	2(%)	3(%)	4(%)	5(%)
Objective strategies	6.35	51.26	21.5	15.42	5.47
Planning strategies	7.18	51.35	25.05	12.23	4.29
Organization strategies	3.6	29.56	21.89	38.95	6
Monitoring strategies	5.72	46.23	21.54	20.66	5.85
Evaluating strategies	50.66	15.62	15.47	14.34	3.91
Average percentage	14.702	38.604	20.49	20.32	5.104

Male students are the ones who lack ability of self-control and self-monitoring, which can be reflected from the figure of Table. When it comes to evaluating strategies, 50.66% of male students support traditional evaluating method. They lack self-evaluation ability, for only 3.91% of students strongly agree.

From the above analysis we realize that the general condition of male students' metacognitive strategies use under Internet is not satisfying. But the frequency of using organization strategies is obviously higher than that of other strategies, which conveys the information that male students are not afraid of making mistakes and they are brave to speak up what they want.

#### C. Overall Statistics of Female Students' Metacognitive Strategies Use in Oral Learning under Internet Environment

Strategies	Percent				
	1(%)	2(%)	3(%)	4(%)	5(%)
Objective strategies	2.61	25.14	21.17	36.23	8.85
Planning strategies	2.13	29.8	22.05	37.56	8.46
Organization strategies	4.7	43.59	26.76	20.75	5.20
Monitoring strategies	5.27	42.4	23.95	22.38	6
Evaluating strategies	50.65	14.62	14.37	15.78	4.58
Average percent	13.072	31.11	21.66	26.54	6.618

The figures in the table shows that the most frequently used strategy is planning strategy winning the support from 46.02% (37.56% plus 8.85%) female students. The next strategy in frequency is objective-setting strategies, with a percentage of 45.08% (36.23% plus 8.85%). Compared with the former two strategies, the rest three are slightly weak, for their percentage are around 20. And the lowest is evaluating strategies with a percentage of 20.36.

In the previous parts, the author presents an overall descriptive statistics of male students' and female students' metacognitive strategy use in oral English learning under Internet respectively. If we compare the two tables, some differences can be inferred, which will be stated in the following.

Firstly, the general condition of female students' metacognitive strategies use in oral English learning under Internet is 7% higher than that of males. It seems that more and more female students realize the importance of using strategies and apply strategies into their study process consciously.

Secondly, female students use planning strategies the most and use evaluating strategies the least. Quite different from female students, the male students use organization strategy the most and use evaluation strategy the least. It is obvious that both male and female students don't like to use evaluation strategy. Females prefer to set up goals and make plans to fulfill them. They learn oral English under Internet with strong intention. Male students are good at organizing their learning process. Both male students and female students lack ability to regulate and evaluate their learning process.

#### D. Relationship between Metacognitive Strategy Use and Oral English Learning Proficiency

The author makes a comparison between male students and female students' general condition of metacognitive strategies use and make the conclusion that the strategy the girl students used is more frequently than boy students. The divergence in the use of metacognitive strategy can lead to the differences in testing scores. With the final examination as an example, the average score of girl students is higher than that of boy students'. On a tentative basis the research results suggest that girl students acquire more satisfying scores than the boy students due to the metacognitive strategies they use in the process of learning.

### IV. IMPLICATIONS FOR COLLEGE ORAL ENGLISH TEACHING AND LEARNING UNDER INTERNET ENVIRONMENT IN THE NIGHT OF METACOGNITIVE STRATEGIES

#### A. Implications for Oral English Teaching

##### 1. Improving the Construction of Speaking Material

The construction of speaking material is the basis for oral English teaching under Internet. In the network context, the teaching of oral English cannot be implemented without the assistance of some appropriate speaking materials. College English teachers are badly in need of oral-English autonomous learning materials. At present time, in GUT, a database has been set up for storing oral-English learning materials; however, it is of no help. On the one hand, the materials are so limited that they couldn't satisfy the needs of student's study; on the other hand, all these materials are designed in

almost the same model which is not suitable for students with varied personalities and learning styles. Owing to the insufficiency of speaking materials and imperfect design, it affects students' learning efficiency to some extent. So, the construction of speaking materials should be improved in following two aspects: (1) the database should be very plentiful and teachers should constantly enrich it with good teaching and learning materials. It should contain abundant materials with different subjects, such as cultures, tourisms, politics, economies and etc. and the materials should be presented in varied forms such as in the forms of news, dialogues and passages etc. (2) The design of oral learning database should meet students individualized needs to the maximum. Students' differences are significant, in the areas of cognition, affective situation, age, language learning aptitude, motivation, learning style, personality and etc. The author is in the hope that the construction of the English network learning database should adhere to this principle: training mode or training method should cater for sex differences and personality differences. The database can be divided into different modules, for example, listening check-up, pronunciation imitation, role play, and tongue twisters. Vivid designing and organization of the materials are needed to arouse students' initiatives to learn oral English under Internet.

## 2. Strengthening the Monitoring Strategy Training on Students

According to Stern (1975), a learner who hopes to be successful in language learning should follow ten specific principles; one of them is self-monitoring and critical sensibility to language use. However, as is found out in last chapter, students of GUT lack the awareness of using monitoring strategies to regulate their learning process and progress from their mistakes, which finally hinder students' ability to improve oral English learning proficiency. So the monitoring strategy training on students in oral English teaching under Internet is important and urgent.

The monitoring strategy training on students in oral English teaching under Internet should be strengthened in three aspects:

The first is to instruct students to self-monitor their learning plan and regulate the plan accordingly. Many students, who managed to develop plans properly from the aspect of content to the allocation of time and the choice of methods, can not persist owing to the lack of necessary monitoring and poor self-discipline. Students can make such a plan as improving his/her pronunciation and intonation of speaking in this term or this month, and the teacher will offer guidance for the student to monitor his/her learning process.

The second is to guide students to cultivate self-monitoring methods, including keeping diaries, which is a reflective, first-hand account by a student of his/her language learning experience, and his/her reflection on reaction to the process. Besides, it is useful to guide students to write stage summary, which summarize his/her progress or limitations of a certain kind of stage. The teacher's supervision, by pointing out the students' limitations, is also beneficial to students' oral English learning. From self-monitoring, students can check, verify and correct his/her errors in the course of oral English learning task, and learn to appreciate his/her oral production while it is taking place.

The third is to direct students to strengthen self-monitoring on their autonomous learning process under Internet. Teachers should create a harmonious and supportive classroom atmosphere in oral English class under Internet, and teachers' role can be changed from teacher-centered into student-centered.

## 3. Strengthening the Evaluating Strategy Training on Students

Evaluating strategy training is a key step for metacognitive strategies training on students. Self-evaluation can help students have a better control over the whole learning process and evaluating strategy training on students can be strengthened in the following two aspects.

First of all is to make students aware of the importance of self-evaluation. It is the fact that students are dependent on teachers' evaluation all the time, we can infer from the previous analysis on students' evaluating strategies use, that students scarcely make self-evaluation and they tend to rely on their teachers' and fellow students' evaluation, which are the most traditional ways in oral English assessment. In this way, scores are used to judge the level of students' oral English. They never take self-evaluation seriously. But according to Oxford's (1990) metacognitive strategies theory, self-evaluation enables the students to have a constant and subjective comment on their own study, which in turn, will make them more conscious of their process and more confident and interested in study. Correct self-evaluation can help learners seek more realistic and appropriate learning strategy. So it is of vital importance for teachers to train students to use self-evaluation strategies.

Then, two methods can be adopted, namely 'top-down' and 'bottom-up' to train students' evaluation ability. To be more specific, the teacher's and classmates' evaluation can serve as guidance and reference when a student makes evaluation of himself. Conversely, the self-evaluation can affect his teacher's and classmates' evaluation to some extent. To sum up, a student can adjust his self-evaluation according to the evaluation of different sources and thus gain a clearer picture of his own achievement and problems.

## B. Implications for Oral English Learning under Internet

Some implications for oral English learning under Internet environment will be illustrated in part, including improving students' awareness of using metacognitive strategies, arousing students' learning interest of oral English, and improving students' autonomous study ability in oral English learning under Internet.

### 1. Improving students' Awareness of Using Metacognitive Strategy

Wen Qiufang's (1995) research on metacognitive strategies shows that there are great differences in using metacognitive strategy between the students who succeed in learning and the students who are the losers in learning.

The former has a strong awareness of using metacognitive strategy, adhering to strict plan of English learning and learning on their own initiative; however, the latter has a slim awareness of using metacognitive strategy and they just learn blindly and passively. So it is critical to improve students' awareness of using metacognitive strategies in oral English learning.

There are two ways for students to improve their awareness of using metacognitive strategies in oral English learning.

(1) To enrich students' knowledge and experience about metacognition. Students' metacognitive ability is greatly related to their metacognitive knowledge. When teaching, the English teachers should have awareness to impart metacognitive knowledge and strengthen the application of knowledge in learning activities. At the meantime, the teachers should stir up students to have metacognitive experience by using situational teaching method and increase the precision of experience step by step. By doing so, the students' metacognitive ability can be improved.

(2) To create harmonious and democratic feedback conditions. During the teaching process, the teachers should create harmonious and democratic feedback conditions for students. Not only can each student freely evaluate the fellow students' learning ways and strategies, but also they are willing to accept the evaluation given by others. Based on this condition, the teachers should drive students from teacher-based feedback to student-based feedback and gradually to instruct students to foster a good learning habit and therefore, they can really master the way to learn metacognition strategies.

## 2. Arousing Students' Learning Interest in Oral English

Interest is the best teacher for learning English. In traditional teacher-based oral English teaching classroom, the teacher is the center of the class and traditional teaching pattern should be like this: first of all, the teacher tell the students what the topic is for that day; then, what patterns and useful sentences students should remember and use to develop the topic; the following 10 or 15 minutes are for students to prepare in pairs or in groups; the last is the show time. You may find that it is a weird phenomenon that some students are always to be elected as representatives to state their ideas of groups and some students are always keep silent in oral English class room. So, gradually, to some students, oral English become dumb English, they lose interest in learning English bit by bit. They have no interest in the topic because the topic sometimes seems too out of date; they have no interest in speaking because they are frightened to being laughed at by their fellow students due to their accents. Therefore, stirring up the learning interest in oral English learning under Internet environment is a major concern and learning under Internet environment seems as the best solution.

Under Internet environment, without the restriction of traditional teaching materials, teaching methods and even teachers themselves, the learners can choose to learn materials they are fond of based on their learning level and their needs. What's more, students' interest can be stirred up by the vivid images of materials and the materials are excellent both in illustrations and texts. Internet environment provides a freedom space for students to acquire knowledge they are interested in.

The highlight of learning oral English under Internet environment is its timely interaction such as the interaction between learners and computers, interaction between teachers and learners and interaction between learners. More chances and time are given to the interaction between learners and computers via learning under internet environment. The major ways for interaction between teachers and learners are E-mail, discussion zone, BBS and MSN, sometimes, interaction can be made by phonetics and video. Students can state ideas freely in discussion zone without being afraid of losing face; especially in discussing their favorite topics. Teachers can join in QQ zone which is set up by students and talk to them every now and then to find out students' hard questions. Students are interested in talking with teachers in QQ Zone because it seems that teachers become more friendly and closer, just like a common friend. Students have interest in learning everything interesting in the Internet, and teachers should encourage them to develop their oral English on-line.

## 3. Improving Students' Autonomous Study Ability in Oral English Learning

The illiterate in the future are no longer those who aren't capable of reading words, but those failing in knowing how to learn. It is a trend that fostering independent learners is the ultimate goal of education. Independent learners are the learners who learn autonomy. Holec(1981), who remains a prominent figure within the field of autonomy, defines learners autonomy as the ability to take charge of one's own learning. Huttunen(1982) thinks that autonomy learning means a learner is fully autonomous when he is working individually or in a group, taking responsibility for the planning, monitoring and evaluation of his studies. In a word, students will take an active part in making decisions about their own learning, which includes setting goals at the begging of their learning processes, monitor the pace of progress during their learning processes and evaluate the outcome at the end of their learning processes.

To cultivate students' autonomous study ability in oral English learning under Internet, first of all, teachers can design a questionnaire like "what kind of topic I would to learn in oral English class?" "What kinds of method I would like to use to learn oral English?" "I would like to do what out of class and I will improve my oral English by.... etc.?" Teachers distribute questionnaire via Internet and students answer the questionnaire and submit to teachers via Internet. This can help students realize that it's themselves rather than others to make decision about their own learning and make goals explicit.

Then, students should have more opportunities to monitor their own learning processes. Teachers can make a form

which containing such questions as “Do I remember the words and useful expressions learned in oral English class?” “Do I finish the oral assignment?” “Do I make progresses in oral English learning?” etc. and pass them to students via Internet. A week or two weeks later, students are required to fill in the form and hand in via Internet. This can help students realize that it’s themselves who monitor their pace of learning processes and regulate them. Students should improve their autonomous ability by self-evaluation. With the help of Internet, Instead of traditional evaluation methods, students can check their oral English proficiency whenever and wherever. Such as there are some small quizzes on line for students to check their vocabulary. If students want to have perfect accent, they can choose a famous person whose accent they admire, they can download recordings of his/her from Internet, and imitate the way he or she speaks. They can send their recording to teachers by QQ or E-mil, and without giving specific marks, teachers only assess whether their accent is more standard than before or not.

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