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**AUTONOMY AS METACOGNITIVE AWARENESS :
SUGGESTIONS FOR TRAINING SELF-MONITORING
OF LISTENING COMPREHENSION**

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RESUME

Cet article décrit l'évolution d'une expérience d'enseignement/apprentissage de la compréhension orale débutée en 1982. S'inspirant de recherches sur la métacognition, cette formation s'est centrée sur la compréhension orale en tant qu'activité métacognitive ; c'est-à-dire, une activité qui exige de l'apprenant la connaissance de ses propres processus cognitifs aussi bien que la capacité de contrôler ces processus. Dans l'approche métacognitive, l'enseignant ('trainer') tente de transmettre un ensemble d'opérations dont le but est d'aider l'apprenant à prendre conscience de la compréhension active, de ses propres stratégies de compréhension, des types de connaissances nécessaires et des moyens de mieux se servir de ces connaissances pour former, vérifier et réviser des hypothèses.

Le matériel élaboré indique de quelle manière l'enseignant peut intervenir pour amener l'apprenant non seulement à cette prise de conscience, mais surtout à l'utilisation de stratégies appropriées à l'auto-évaluation de la compréhension.

INTRODUCTION

Listening comprehension as information processing is receiving increasing attention as a skill in its own right; a skill which is not acquired automatically through contact with the target language environment, not acquired incidentally through classroom work on the other three language skills, not acquired at all through traditional listening activities which, by providing comprehension questions after the fact, simply check what has been understood or remembered.

The problem of training learners to be better listeners, while simultaneously training them to be more autonomous, and doing so in an institution which allows for no modification of the external conditions of learning, was raised in the *Melanges* in 1982. In "Listening Comprehension Strategies and Autonomy: Why Error Analysis?", the author describes how, in order to preserve the dual objective of an autonomous learning scheme - the acquisition of both knowledge and know-how, the focus of autonomy was, by necessity, shifted from the global self-management of the learning experience - aspects of learning such as when to learn, where to learn, what to learn and how to learn, to the internal control of learning - more specifically, the "how to" aspect of learning. (Henner Stanchina, 1982).

This experiment has been carried on and greatly enhanced by research in the field of cognitive science. The present paper will attempt to draw the parallels between autonomous learning and metacognitive training, and in this light, will take a second look at the listening comprehension process itself, at the learners, and at the possibilities for designing appropriate listening comprehension materials.

Studies in metacognition are especially inspiring to promoters of learner autonomy, since the basic principles underlying both these approaches to learning are identical :

- a commitment to the intrinsic value of learning to learn
- a distinction between the static and dynamic views of knowledge, with emphasis on process over product; the assertion that general learning skills do exist and are essential for efficient learning; the conviction that teachers must make an explicit attempt to transmit these skills to learners.
- a belief in the maintenance and transferability of these general learning skills
- a new role for the teacher as "helper" (Henner Stanchina, 1975) or "mediator" (Brown, 1983) in the learning process
- a recognition of the affective component of learning to learn; a willingness to tackle the learners' representations of what learning is, of their own competence, learning abilities and limitations.
- a call for revision of our assessment techniques :

- ...Any evaluation would not be merely one of linguistic competence ; it would necessarily comprise an evolution of the learners' abilities to change, to adapt to new learning experiences... judging how much they have learned about how they learn..." (Henner Stanchina, 1975)

- ...The main target of school programs has been the goal of teaching content knowledge ; the preferred criterion measures have been performance on knowledge-based examinations... If students were tested for the efficiency of their learning, there would be a greater likelihood that learning processes would be a part of the school curriculum". (Brown, 1982).

In sum, autonomous learning and metacognitive training both attempt to induce qualitative improvement in the learners.

Metacognitive studies have basically centered on deliberate memorizing and reading in normal native speaker children. The training techniques have also been applied to learning disabled children, characterized in the literature as "inactive learners" (Torgesen, 1982), failing to spontaneously employ appropriate strategies for problem solving. Admittedly, "the generalization of these techniques to learning disabled populations is speculative" (Capelli and Markman, 1982).

There has been little investigation of the use of metacognitive training in second language acquisition. Though the further generalization of these techniques to second language learning is tentative, these insights warrant attention. And while the L2 learner/learning disabled analogy is unfortunate, the label "inactive learner" certainly fits many second language learners.

What is Metacognition ?

"Metacognition refers to higher order or executive functions concerned with knowledge of oneself as a learner and of the learning process" (Gavelek and Raphael, 1982). The executive system is capable of performing intelligent evaluation of its own operations. Metacognition, then, involves two components :

1 - "an awareness of what skills, strategies and resources are needed to perform a task effectively", and

2 - "the ability to use self-regulatory mechanisms to ensure the successful completion of the task, such as planning one's moves, evaluating the effectiveness of one's on-going activities, checking the outcomes of one's efforts, and remediating whatever difficulties arise". (Backer, 1982).

Metacognitive deficits displayed in children have been described as "lack of awareness of their own limitations as problem solvers and of compensatory strategies to overcome such limitations, and a general lack of self-management techniques for monitoring and checking their own progress". (Brown and Palincsar, 1982).

What is the Relationship Between Metacognition and Listening Comprehension ?

Current theories of listening comprehension in natives define it not as a linear processing of linguistic forms, but as a complex, constructive, creative, problem-solving activity in which active learners call upon their analytic capacities to process information at various levels in order to derive meaning. Clark and Clark (1977) suggest that listeners probably rely on some flexible combination of syntactic and semantic strategies, "beginning with propositions that make sense in context and checking for surface constituents that express these propositions". Further, the listener "must go beyond the utterance, drawing inferences, seeking clues in linguistic and pragmatic context, in the speaker's assumed beliefs and all kinds of general knowledge". (Clark, 1978). This general knowledge, called script or schema knowledge, is culturally determined. It is what we already know about or expect from particular events or situations. Thus, the information needed to understand many utterances is not explicitly present in the utterance but is provided by the listeners from their schema knowledge.

There are, then, three types of knowledge which skilled listeners bring to bear on the interpretation of language :

- syntactic
- semantic
- schematic

How syntactic, semantic, and schematic knowledge are used in comprehending is a question of strategy. Skilled listeners are constantly elaborating and transforming what they hear.

- They use their stored knowledge and expectations to generate hypotheses on a text
- They integrate new material into their on-going interpretations
- They make inferences to fill in gaps
- They evaluate their interpretations
- They revise their hypotheses when necessary.

In order to understand, listeners must first be making an active attempt to process the information. In doing so, they must be able to recognize when comprehension failure has occurred. Skilled listeners are alerted to possible comprehension failures when they discover a "discrepancy between what they are hearing and their current interpretation of the material up to that point," (Capelli and Markman, 1982), or when they discover that "expectations they have generated are disconfirmed". (Capelli and Markman, 1982) They must then be able to activate the appropriate knowledge to repair the failure. In other words, listeners must constantly be monitoring their own comprehension. Comprehension monitoring is an integral part of the comprehension process itself. Listening comprehension is, by nature, a reflective, metacognitive activity in that it requires awareness of one's own cognitive processes as well as the ability to regulate these processes.

A metacognitive approach to listening comprehension assumes that listening strategies can be taught and focusses explicitly on them. By attempting to transmit a set of procedures rather than a fixed body of information, this approach furthers the cause of learner autonomy by teaching learners something about their own learning process and providing them with the tools necessary to deal more efficiently and effectively with authentic language input.

THE LEARNERS

The learners in this experiment were initially described as reacting negatively when confronted with authentic listening materials - attempting avoidance or experiencing listening blocks as soon as they encountered a word they didn't understand. These learners are said to favor a "bottom-up" approach ; that is, a "data-driven, analytic, conscious approach". (Byrnes, 1983). When decoding fails, they search their conscious memory for appropriate rules, thereby losing time and missing essential information provided in subsequent material. They are unable to recover when they themselves produce miscues which change meaning in unacceptable ways. They are slow, inefficient listeners.

There are, however, the exceptional learners who understand that the purpose of listening is to extract meaning and mentally integrate new knowledge with what is already known. They are able to piece together the bits of information they do understand to form logical interpretations of the material. These learners are said to favor a "top-down" processing direction ; "schema-driven, holistic, essentially subconscious". (Byrnes, 1983). They are fluent listeners who can go on listening though they don't understand every word of a text and in most cases cannot provide a grammatically correct rendition of it.

In both cases, the learners lack the combined fluency and accuracy characteristic of native listeners.

Systematic metacognitive awareness training should help learners develop a more integrated mode of processing, where they understand the interaction between top-down and bottom-up strategies and understand that higher level procedures can be used to compensate for lower level procedures such as decoding.

The training should lead them to understand the kinds of knowledge frames needed to successfully process L2 input and the ways in which to use this knowledge to monitor their comprehension efforts.

GENERAL CHARACTERISTICS OF THE TRAINING

- Fostering Active Involvement

The materials themselves must be conducive to active processing ; materials which are too simplified, too explicit, or too highly specialized would preclude the constructive processing one is trying to develop. The tasks devised must stress plausibility or appropriateness of response rather than require that the learners simply come up with the right answers. All texts used here were unaltered radio discussions, interviews, news stories.

- Providing On-Going Psychological Support

The complexity of authentic language input coupled with the shift in focus from content to strategy produces a great deal of learner anxiety. Learners bring to the task their own opinions of themselves as learners and their own expectations of the learning situation. Metacognitive awareness training is not in their repertoires of teaching/learning experiences.

However, given the raw, uncontrolled nature of authentic input, the learner's role as copier or processor soon becomes clear. The teacher/trainer must explain that complete comprehension is not expected, that the exercises are not meant to test comprehension but to permit mutual exploration of the ways in which they cope, or fail to cope with these difficult tasks, and of the ways in which thinking could enhance their comprehension. In other words, they don't understand, so what can they do about it? The solution is not simply knowing more language but using what they already know to achieve better comprehension.

- Providing Feedback

Feedback allows the learners to observe and reflect on their own processing abilities, to collectively examine what they did and why, what they should or should not have done.

Feedback also allows the teacher/trainer to explicitly link strategy use with successful performance, underscoring the purpose and usefulness of the strategy being trained. This is characteristic of "informed" strategy training, which explains the benefits one can expect to derive from strategy use. "... specific feedback on how well the strategy has been implemented and on the level of target performance can play an important role in the maintenance and generalization of trained strategies". (Ryan, Ledger, Short and Weed, 1982).

PROCEDURES

Two different training sequences were adopted :

- A. strategy - task - feedback
- B. task - feedback - strategy

In sequence A, the strategy itself was explicitly introduced. For example, evaluating one's own interpretations. Then learners were given a task to perform - in this case, a transcript to complete after hearing a tape about young adults moving back home with parents.

original excerpt

"Delaying marriage, career emphasis and building a savings plan take precedence over loud parties and loud music".

learner hypothesis

"Delay marriage, Korea embassy..."

Feedback sessions served to determine whether or not learners had in fact employed the given strategy. In this case, the learner had obviously not been evaluating his own interpretation, as he was completely insensitive to this huge discrepancy.

In sequence B, learners were first given a task to perform. Either the trained strategy was illustrated by the very nature of the task :

- listen to one interlocutor in a marital disagreement and predict the other interlocutor's utterances
 - This task models the generation of hypotheses, using syntactic, semantic constraints, communicative context, which skilled listeners use to monitor their comprehension

Or the trained strategy was revealed in feedback sessions where unsuccessful performance of the task was studied :

- transcribing tasks
 - Reviewing grammatical impossibilities culled from learner's hypotheses on texts demonstrates how grammar can be used as a basis for hypothesis testing. A syntactic impossibility could signal a failure in comprehension.

Two basic types of tasks were given :

- *Pre-Listening Tasks* : Because comprehension monitoring depends on one's ability to generate expectations, and this ability in turn depends on how much background knowledge one has, pre-listening tasks were devised to elicit their knowledge, to heighten their awareness of the role of prior knowledge in comprehension, and to give them the chance to use appropriate knowledge to guide their comprehension process. (Where the content of a tape was so unfamiliar as to impede any attempts at comprehension monitoring, background information was first provided. Much time was spent learning how to gain access to the knowledge required for comprehension).

- *One-Line Tasks* : Tasks such as paraphrasing, answering specific questions inserted in the text, were designed to obtain on-going evidence of comprehension monitoring, or lack thereof.

Some of the tasks are elaborated in the tables following. The intent here is to show more clearly the tasks, the texts used, the learners' active attempts to comprehend, the feedback, for three strategies trained :

- using schema knowledge to generate hypotheses on a text
- integrating new information
- inferencing

While the tasks are presented in isolation here, in practice several tasks were given for each text, depending on how the text lent itself to various exercises. Thus, the metacognitive skills were repeatedly trained through work on different texts, and the effect of the training was cumulative.

STRATEGY TRAINED	TEXT	TASK	ACTIVE ATTEMPTS TO COMPREHEND	FEEDBACK
<p>I. Using stored knowledge and expectations to generate hypotheses on a text</p>	<p>(A) A radio discussion and interview about Ethiopia.</p>	<p>Before listening, learners were asked to predict the answers to the following questions based on their own knowledge of the situation in Ethiopia.</p> <ol style="list-style-type: none"> 1. What is the present situation in Ethiopia 2. Mr. Leland and a Congressional Delegation went to Ethiopia. What do you think he saw and how do you think he reacted ? 3. Do you think the problems in Ethiopia can be solved in the short-term ? 4. What do you suppose will happen to the children in Ethiopia ? <p>After listening, learners answered the same 4 questions, comparing their predictions to what they understood from the tape</p>	<p>Range of Responses</p> <ol style="list-style-type: none"> 1. I don't know/ People are suffering famine and diseases because of the drought. 2. I don't know/ Maybe he felt sorry and said he will do his best to help Ethiopia. 3. The problem won't be solve because people will still be poor as they were before the drought/ If people receive food now, it will help them, but the problem cannot solve because they can't depend on to get food from others. 4. I don't know/ They will get diseases very easy/Children are malnutrition/ They will not have long lives. 	<p>This activity clearly demonstrated the link between prior knowledge of content and comprehension. Learners discussed their individual predictions and understanding of the text. Those with no background knowledge were unable to process any of the text They came to understand that by increasing one's knowledge of a given topic, one increases the predictability of a text. The more predictable a text, the more learners can monitor their own comprehension, checking their hearings against their knowledge and expectations.</p>

STRATEGY TRAINED	TEXT	TASK	ACTIVE TO COMPREHEND	FEEDBACK
	<p>"Even if the immediate crisis is averted, Leland says, the Ethiopian tragedy will <i>linger</i> for years to come".</p> <p>(B) A radio discussion about young adults staying home with the folks longer or moving back in</p> <p>"The view of the <i>return to the nest</i> is different for mothers and fathers. <i>Mothers find their middle years</i> once again saddled with traditional duties while fathers, <i>who may have been too busy during the early years of their careers</i>, are glad to make the <i>reacquaintance of their children</i>".</p>	<p>Learners completed a transcript where "averted" and "linger" were blanked out. They were then asked to paraphrase the sentence.</p> <p>The class listened to most of this tape but before hearing the end, they were asked to predict the respective reactions of American mothers and fathers to this phenomenon.</p> <p>Learners transcribed the segment and answered the question, "How do mothers and fathers react to this situation?"</p>	<p>"Even if the Ethiopian crisis is leaving, the Ethiopian tragedy will stay for years to come/Even if the famine problem calm down, they will have big problem for many years after".</p> <p>- "Mothers want their children to stay home until the day they get marriage."/ Mothers have more duties of taking care of their children while fathers are busy outside</p> <p>Overwhelmingly : The mother is glad to return to her traditional duty and the father is busy with his career.</p>	<p>Learners who had made predictions were able to form appropriate hypotheses</p> <p>Periodic paraphrasing models the on-going evaluation of comprehension found in good listeners.</p> <p>This prediction/interpretation task helped learners gain awareness of their own cultural expectations, and see how these expectations can interfere with and distort comprehension.</p> <p>Thus, the need to constantly revise one's expectations in a different culture.</p>

STRATEGY TRAINED	TEXT	TASK	ACTIVE ATTEMPTS TO COMPREHEND	FEEDBACK
	<p>(C) A news item about crime and taking the law into your own hands in Dade County, Florida.</p> <ul style="list-style-type: none"> - Dade County is a dangerous place to be these days... - A lot more people wanna take the law into their own hands... - the number of people who feel it is o.k. to shoot to kill an intruder... 	<p>Syntactic/Semantic Prediction :</p> <p>"They all seem to feel that if they----- themselves in a situation in which they have to take some action, even if it means killing somebody, they-----"</p> <p>Comprehension of prior text (left) was ensured before learners were asked to predict what would be in the blanks. They were asked to mark the textual clues which led them to their conclusion.</p>	<p>Learners all predicted appropriate forms : if they find themselves</p> <ul style="list-style-type: none"> - they will if they found themselves - they would 	<p>This activity shows how generating expectations and making hypotheses based on comprehension of prior text can pay off.</p>

STRATEGY TRAINED	TEXT	TASK	ACTIVE ATTEMPTS TO COMPREHEND	FEEDBACK
<p>ii. Integrating new material, trying different parts of a text together and evaluating one's interpretations</p>	<p>A radio discussion and interview about baby boomers.</p> <p>"The cover story of the current issue of Fortune magazine examines the baby boom generation and its terrific <i>economic clout</i>!"</p> <p>Further in text :</p> <ul style="list-style-type: none"> - "Some of the examples you have given seem to indicate that baby boomers enjoy the good life". - "Oh, absolutely". <p>on Ethiopia</p> <p>"It is projected that there will be, in 1985, a need for about 1,200,000 metric tons of food and so far, the pledges only amount to 650,000 metric tons of food. We have got to find the balance* somewhere"</p>	<p>Learners were instructed to fill in the blank after listening, or to write in an equivalent meaning if they could not decode the exact words. Then they had to interpret their responses.</p> <p>Here learners had the complete transcript and were asked only to interpret the given word "balance".</p>	<p>economic clout = money problems, economic crisis</p> <p>economic closed = people have a poor economic situation</p> <p>economic crowd = financial problems</p> <p>economic clout = economic problems !</p> <p>"balance" = same weight on 2 different sides/ when you ride a bicycle you need a balance/average/the economic and population are same level/to find the middle place between too much and too less</p>	<p>This activity encourages listeners to infer the meanings of unknown words from context, and to use subsequent text to evaluate their hypotheses.</p> <p>Many were unaware of the contradiction between "economic problems" and "enjoy the good life".</p> <p>The fact that one learner was able to decode the word correctly, yet misinterpreted its meaning shows learners that comprehension is not just hearing but, more importantly, thinking.</p> <p>Contextual clues - prior text, and the actual numbers given here, should have been used to figure out meaning, and check interpretation. Learners must be ready to revise their semantic representations of words.</p>

STRATEGY TRAINED	TEXT	TASK	ACTIVE ATTEMPTS TO COMPREHEND	FEEDBACK
<p>III. Making and evaluating inferences</p>	<p>on Ethiopia</p> <ul style="list-style-type: none"> - <i>"May I raise a hideous issue with you? That's sort of the Malthusian solution to this. That is, when you are dealing with this many numbers, and the prospect for their survival is so awful... then is there some benefit to death?"</i> - <i>"Oh I think Malthus was an awful guy. I mean, to propose such a theory about humanity. I think we should do all we can to preserve humanity. This is not gonna solve, the people of Ethiopia dying is not gonna solve the world population problem.."</i> 	<p>Before listening, learners had been asked, "Do you know who Malthus was?"</p> <p>After listening and completing the transcript learners were asked, "What do you think the Malthusian (Malthus) theory was?"</p>	<ul style="list-style-type: none"> - I don't know/"An economist who discover a new theory about population-economic grows arithmetically and population grows geometrically" - I don't know/ that the population is growing too fast and that food is not enough to feed everybody in the world 	<p>In order to tie together these implicit clues, learners must use prior knowledge and contextual clues to make inferences to bridge the gaps and must evaluate the adequacy of their interpretations. Their ability to make correct inferences depends on</p> <ul style="list-style-type: none"> - their prior knowledge - what they have actually understood - their effective use of contextual clues.

Results and Discussion

Although the research on metacognition strongly indicates that metacognitive awareness training *should* improve learner performance, there has been no causal relationship established as yet. It is clear that this kind of training cannot be effective if the learners are unwilling to change their expectations of the teacher, their expectations of the listening task itself, and their expectations of their own role in the listening process.

Active processing requires a greater commitment on the part of the learner. "Employing strategies requires more sustained effort than behaving passively, and regulating the effective use of strategies necessitates even more additional effort and attention." (Ryan, Ledger, Short and Weed, 1982). Learners must understand the benefits of employing these strategies in order to accept the dual nature of the task.

Interestingly enough, our learners are more sophisticated and vocal about what they want to learn and how they want to learn it. Many of them have been victims of more traditional methods of teaching and are, in fact, grateful to finally be offered a different kind of classroom training, one which they perceive as a more direct, more efficient means of attaining their goals. An overwhelming majority of learners reacted positively to the training, as is borne out in some sample responses on an end-of-term evaluation questionnaire. Especially encouraging is the fact that, without particular prompting, learners responded in terms of the metacognitive skills they had acquired, not only in terms of the content of the course.

Question : In your opinion, what was the purpose of this class? What were the teacher's goals?

Responses : - The purpose of this class is to improve our ability of comprehension by all contexts and clues which will help us figure out the main ideas of a speak
- It was excellent to learn how to guess even when I had words which I did not know
- The teacher's goals were teaching via dialogue, asking questions in order to make us think and finally to guess something that we didn't know

Question : How would you define listening comprehension?

Responses : - Listening comprehension has relationship with knowledge. For, even when I cannot get words, I can guess if the topic comes which I know
- I hear a conversation and I adapt my mind to what I am hearing

Question : Did this class change your idea of what listening comprehension is ? If so, explain...

Responses : - yes, I didn't realize before that if you know what the tape is talking about, you can understand but I guess and so I can have the meaning of the whole conversation
- Yes, I must learn to predict
- I have known how to catch the meaning and draw the conclusion by both listening and guessing
- Yes, I became to think about the context, try not to stop when I don't understand, try to put my grammar into the listening
- yes because I used to believe that listening comprehension was only to listen a statement and find the correct answer. But despite this I learned that listening is a prediction, is a way of making yourself think in many ways With listening, your mind goes back and forth and I believe it is a very good exercise for our mind.
- This listening class was different from others. For this class was a thinking class. I believe that this class has the most important definition of listening.

Question : Has your listening comprehension ability improved this semester? If so, do you think this improvement is a direct result of the teaching ? If not, why not ?

Responses : - Yes, because you have give me some valuable listening comprehension exercises and taught me some method about that.
- I don't avoid listening and I try to get more and more.
- Yes I think it was a direct result of the teaching. You taught us to predict what we would listening and made us give this habit.
- It's not really a direct result of the teaching but this improvement was a result of the association between teaching, work and my school and friends relationships.
- Yes because your teaching really make my English ability improve but I think if you can teach grammar I will like more than now

CONCLUSION

This paper has attempted to show how metacognitive awareness training can be translated into classroom practice. If metacognitive approaches to language teaching/learning are to be more widely adopted, the various implications of such training will have to be investigated further.

Of immediate concern is :

- creating appropriate listening materials
- devising reliable tests which judge people not only on their knowledge base but also on their ability to learn
- extending such training to learners at low proficiency levels

Since there is no evidence of any correlation between strategy awareness or use and proficiency level, metacognitive training is feasible and should be implemented with beginners. This implies, of course, a re-evaluation of the criteria for text selection, a re-thinking of the techniques used to ascertain learners' schemata or provide them with background knowledge, those used to elicit learner hypotheses on a text, to discuss their comprehension problems and provide the desired feedback about strategy use.

The solutions to the complex questions raised when implementing metacognitive awareness training lie in the interaction between the learners and the trainers, as well as in the attitudes and beliefs of evaluators and administrators.

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