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Developing students' listening metacognitive strategies using online videotext self-dictation-generation learning activity

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Abstract

The study is based on the use of a flexible learning framework to help students improve information processes underlying strategy instruction in EFL listening. By exploiting the online videotext self-dictation-generation (video-SDG) learning activity implemented on the YouTube caption manager platform, the learning cycle was emphasized to promote metacognitive listening development. Two theories were used to guide the online video-SDG learning activity: a student question-generation method and a metacognitive listening training model in a second language (L2). The study investigated how college students in the online video-SDG activity enhanced the use of listening strategies by developing metacognitive listening skills. With emphasis on the metacognitive instructional process, students could promote their listening comprehension of advertisement videos (AVs). Forty-eight students were recruited to participate in the study. Through data collected from the online learning platform, questionnaires, a focus-group interview, and pre- and post- achievement tests, the results revealed that the online video-SDG learning activity could effectively engage students in reflecting upon their perceptions of specific problems countered, listening strategy usages, and strategic knowledge exploited in the metacognitive instructional process. The importance of employing cost-effective online video-SGD learning activities is worthy of consideration in developing students' metacognitive listening knowledge for enhancing EFL listening strategy instruction.

Keywords: Listening strategy, metacognitive learning, listening strategy instruction, student question generation, metacognitive listening training model.

1. Introduction

Among language strategies, strategy instructions in listening comprehension play a critical role as language learners need to internalize the rules of language and process meanings from continuous incoming speech flow. It is hard work for students to acquire these skills, and as such, these areas deserve more support (Vandergrift, 1997, 1999). Nowadays, CALL gives learners and listeners the flexibility they require to deal with connected speech. The student question-generation approach has been considered by many to be an effective alternative to strategy training instruction (Koch & Echstein, 1991; Rosenshine et al., 1996; Yu & Chan, 2005; Yu, 2005, 2009). Yu (2005, 2009) attempts to develop a question-posing learning system to support cognitive development for processing incoming information and describes its effect on metacognitive development. She sees many advantages in providing students with the question-generation approach in academic performance or other strategy training instruction, such as encouraging a learning climate with active participation and

empowering students to see themselves as active thinkers and problem-solvers. We see another important interest in following the student question-generation approach that could potentially be applied to foreign language acquisition and, of particular interest to the current study, enhance student listening comprehension by developing student awareness of metacognitive strategy in listening to captioned videos with a web-based, student question-generation platform. Captioned videos are effective and useful in second language learning (Leveridge & Yang, 2013; Montero Perez, Peters, & Desmet, 2014). They shift learners from viewing listening as a passive activity to a complex, active process in which they diagnose their problems, examine their thinking processes, and observe their perceptions. The listening strategy instruction in metacognitive awareness is an important aspect of the listening 'intake' strategy. As students work on authentic listening material from the web-based learning platform, they are able to control what information they might input or intake.

A review of past studies by Sarani and Jabbari (2010) and Singer and Donlan (1982) on question-generation strategies in EFL learning support students' reading comprehension and engagement in reading texts with story recall and plot comprehension. However, these studies do not focus specifically on training in listening strategies. When listening strategies are highlighted, most of them in strategy instruction (Birjand & Rahimi, 2012; Rasouli et al., 2013; Coskun, 2010), emphasize a systematic instructional model with intensive implementation whereby teachers play a crucial role in imparting knowledge of learning strategies and orchestrate teaching activities to meet anticipated learning goals. In this study, we believe language learning is a complex skill that needs to move through certain stages from controlled to automatic processing via practice (Chamot & O'Malley, 1987). The focus is anything but learning itself. The role of teachers should not merely focus on explicit instruction but should devote more instructional time to offer students opportunities for practicing strategy.

In the present study, the online video-SDG activity was carried out and EFL learners were expected to listen to advertisement videos on the YouTube platform. While listening, a group of students generated their dictation tests and reported on their thinking process by noting down the reasons on the YouTube learning platform. The study analysed these reflections by adopting Vandergrift's model (1997), as we think videotext dictation generation is indicative of metacognitive activity by learners (i.e., planning, monitoring and evaluation).

The purpose of the study was to examine if the online video-SDG strategy helped students raise awareness of their learning status and use of listening strategy. We aimed to know (1) what knowledge of metacognitive listening did students use when participating in the online video-SDG learning approach? By distributing the questionnaire, it enabled us to know (2) the metacognitive strategy used by the learners, and finally, (3) whether the use of the metacognitive strategy in listening influenced performance in comprehension. Before analysing the effectiveness of the metacognitive strategy training for the listening course, it is beneficial to explore relevant theories of metacognitive strategies and student question-generation.

2. Literature Review

2.1. Metacognitive strategies in L2 listening

Flavell (1979: 906) views the term metacognition as "cognition about cognitive phenomena," or "thinking about thinking". He defines metacognition as a combination of two components: knowledge and regulation. Each element has a specific value and point. Metacognitive knowledge consists of three components: knowledge of (1) oneself as a learner and the factors that might influence performance, (2) strategies, and (3) knowing when, where, how and why to use particular learning strategies (Cross & Paris,

1988; Kuhn & Dean, 2004). Metacognitive regulation is about one regulating one's cognition and gaining awareness of one's comprehension, and many researchers have proposed activities like planning, monitoring, and evaluating (Schraw et al., 2006; Whitebread et al., 2009). More specifically, rather than sitting isolated because of a breakdown in comprehension or passively waiting for teachers to give answers, learners are trained to know what to do and how to carry out strategies to solve their problems when they come across difficulties or further elaborate their condition to set short- and long-term goals to check their comprehension during listening tasks (Oxford, 1990).

Wenden (1998) lists eight points about learners' metacognitive ability which encourage and guide students' metacognitive development in EFL learning. He states that learners could (1) be more skilled learners, (2) be faster in the progress as well as the quality of their engagement, thereby resulting in the higher motivation level, (3) be persistent in their abilities to pursue goals, (4) gain help from peers, teachers, or family if required, (5) understand how to be successful learners, (6) be active thinkers about obstacles, inaccuracies or failures that occur during the learning process, (7) manage their learning to match it with learning tactics and adjust themselves to reflect changing circumstances, and (8) remind themselves that they are continual learners who can successfully adapt to new situations or rules.

Many researchers view these strategies as conducive to learning and conduct research on exploring students' use of metacognition (Birjandi and Rahimi, 2012; Bozorgian, 2013). Many findings reflect the awareness in language learning that students could, and are required to, instruct knowledge of metacognitive strategies to develop tools that facilitate them in becoming more autonomous language learners. (Chamot & O'Malley, 1994; Vandergrift, 1997; Smidt & Hegelheimer, 2004). Listening comprehension skills are also significantly advanced by introducing metacognitive strategies into teaching. Two salient models of a learning cycle have emerged from the works of Chamot and O'Malley (1994) and Vandergrift (1997). Chamot and O'Malley (1994) have developed five phases of the learning cycle including preparation, presentation, practice, evaluation, and expansion. In general, two major principles in the five steps could be highlighted. The first guideline engages students to reflect on their prior knowledge of strategy use, which diagnoses individual learning problems and encourages the evolution of new concepts about listening. The second principle emphasizes ways of experiencing listening strategy deployment and evaluating the appropriateness of these deployments. Vandergrift's perspective on the learning cycle (1997) adapts Flavell's (1979) framework on metacognitive knowledge, which creates a theoretical model of metacognition in L2 listening (see Table 1). Vandergrift (1997) lists four strategic categories including planning, monitoring, evaluation, and problem identification to illustrate a learning cycle of engaging learners with creating or checking students' predictions, stating gaps in their understanding, and monitoring and reflecting on their learning.

Metacognitive knowledge	Examples from listening
Personal knowledge	Self-concepts and self-efficacy about listening, specific listening problems, causes, and possible solutions
Task knowledge	1. Mental, affective and social processes involved in listening skills (e.g., listening for details, gist) needed for completing listening tasks. 2. Factors that might influence listening (e.g., videotexts, speakers). 3. Ways of enhancing listening outside the class.

Strategic knowledge	1. General and specific strategies for facilitating comprehension and coping with difficulties.
	2. Appropriate strategies for specific types of listening; ineffective strategies.

Table 1.Vandergrift's (1997) metacognition model in L2 listening.

Chamot and O'Malley's (1994) model creates a carefully planned linear lesson combing language, content, and strategy training, while Vandergrift (1997) focuses on eliciting student awareness of metacognitive strategy deployment through the complex listening process. The current study adapts Vandergrift's (1997) model as a theoretical basis to analyse students' metacognitive strategy usages.

2.2. Student question-generation approach

One of the growing areas of interest in generative learning strategies aimed at processing learning materials is the student question-generation approach in which learners ask themselves questions about various aspects of texts and generate answers. Rather than treating teachers as dominant figures in classroom-based learning, student question generation involves reciprocal teaching leading students not only towards deep information processing but also towards strategy training (Soonthornmanee, 2002). The student question-posing strategy has been explored in many different learning contexts and shows significantly positive learning outcomes in relation to instructional targets (domain knowledge and learning strategy). For example, Rosenshine et al. (1996) study L1 settings in connection with reading comprehension in which a group of students receiving procedural prompts (generic question stems and signal word prompts) scored better than the unprompted control group. The results concluded that generic question stems were more helpful for students than signal word prompts. In a similar vein, King's (1994) strategy instruction uses strategy prompt cards to provide prompt discussion in which pairs of students, guided by questions designed to utilize prior knowledge or experience, were more successful in comprehension than students guided by questions designed to prompt connections between ideas in a lesson. These analyses focus exclusively on the evaluation of metacognitive strategy pertaining to the transition of students from teacher-led learning to student-directed learning during the learning process.

On the other hand, Yu's (2009) research supports pre-service teachers' shift to more sophisticated learning through guidance to deploy various types of student question-generation activities (e.g., matching, multiple-choice, fill-in-the-blank, short answer and essay) for learners by using online customizable peer-assessment systems. In this research, the foci are on learners' development of domain knowledge, metacognitive strategies, and positive attitudes towards learning activities, all of which report positive results. A friendly online group discussion board has also been created by Choi, Land, and Turgeon (2005) to facilitate learners' ability to raise thoughtful questions and responses to challenging questions. Composing questions not only requires learners to pay attention to the main content, monitoring and to check their current state of understanding; it also involves utilizing learners' metacognitive learning strategies.

2.3. A self-dictation-generation question as a student question-generation approach

One type of exercise for foreign language learning is dictation. It is widely used in listening activities where a worksheet has a gap-filling exercise requiring learners to note down missing words or phrases spoken by the teacher. Dictation is often treated as a gap filling-in exercise that develops learners' listening ability in words, spelling, and punctuation. Cross (2009:152) criticizes "this type of task utilization as it does little to promote 'real work' listening skills" germane to comprehension and thinks it is an unrealistic listening activity because it is purely and mechanically based on listening to

sounds without considering context or actual meanings of words. However, we argue that dictation is not merely the above shallow view led by teacher-centred instructions but can be effective when used as an instructional method to enhance students' learning.

2.4. The study

Drawing on the above pedagogical background, this particular self-dictation-generation exercise was adapted as a significant tool for developing the online video-SDG activity to raise students' awareness of their listening skills. The activity is grounded in the central tenets of the student question-generation approach requiring students to design their self-dictation-generation questions from the listening texts and think of the reasons (reflections) why a particular statement or keyword was left blank. While conducting the activity, students constantly reconstructed meanings from what they listened to on AVs. They could have a preference for examining their understanding of the listening content, clarifying confusing words or meanings, and thinking about their reasons for noting down these particular blanks. During group work, students needed to justify their choices and selections with peers to confirm known and unknown meanings or adjust interpretations after reaching agreement on specific items. Thus, the research questions for this study are:

- What is the students' awareness of metacognitive knowledge in listening as they participate in the online video-SDG learning activity?
- What is the students' awareness of metacognitive strategies regarding the online video-SDG learning activity?
- Do students make progress in the listening achievement test while implementing the online video-SDG learning activity?

3. Method

3.1 Participants

The online video-SDG learning activity was implemented in an undergraduate-level course, Advertising English, at a technical university located in the southern part of Taiwan. The course was open to freshman university night students who majored in the Department of Applied Linguistics. The course aimed to provide EFL learners with experience of authentic listening material and the development of listening strategies by exploiting metacognitive strategies. The course met for a weekly two-hour session over 18 weeks. Forty-eight EFL college students signed up to participate in the course, and none of them had attended special listening strategies programs. Their English language proficiency upon entry was at the pre-intermediate level.

3.2. Learning content

We chose 10 advertising videos with short (1-2 minutes), daily life topics related to the learning content such as education, sports, living environment, diet, fashion design, and finances. The YouTube video-sharing platform was employed to reinforce strategy training according to the pre-chosen topics. Three key top-down strategies (listening for main ideas, prediction, and drawing inferences) were first introduced by presenting a piece of video to the students, while bottom-up strategies (including vocabulary, sound patterns, and syntactic patterns) were chosen to gauge listening comprehension after understanding the general idea behind the subject's topics.

3.3 Implementation

The 18-week course was divided into two stages with eight weeks before the mid-term test, one week for the mid-term break, and one week for final exams. Table 2 describes the detailed procedures of the online video-SDG learning activity.

Stage	Learning activity
I. Present & practice- strategy instruction (weeks 1-8)	Understanding what listening strategies are; experiencing and practicing strategy usages
II. Evaluation –implementation of metacognitive development (weeks 10-17)	Processing listening strategy by incorporating the development of metacognitive listening.

Table 2. Procedures for implementing the online video-SDG learning activity.

3.3.1. Stage I. Presentation and practice of listening strategy instruction

In the first eight weeks, students were introduced to listening strategies, including top-down and bottom-up skills. While they gained an understanding of listening skills, they were encouraged to practice the strategies learnt, taking turns in playing the reciprocal roles of 'teacher' and 'student' in sharing the use of the listening strategies. They formed groups of four to five to allow for efficient peer interaction and knowledge sharing. For example, group members shared thoughts on how to apply listening comprehension strategies. Also, correct meanings of the video content were brainstormed and students' experiences of the listening strategies learning process were discussed. Then, the teacher led a class discussion about the meanings and correct captions of the AV and shared how the thought process worked to deal with incoming speech and comprehension breakdown.

3.3.2. Stage II. Evaluation–metacognitive development

In this stage, students were required to carry out the online video-SDG activity. While choosing a specific blank as the main task of filling-in-the-blanks, students needed to note down the reasons for (1) what the strategies made them understand from certain words or phrases they highlighted (the reasons for this) if they understood the meanings, and (2) why they could not figure out words or phrases they left blank or whether they had trouble understanding them (problems encountered). Two types of questions were adapted from Ogle's (1986) KWL chart where the "K element" stood for "what I know", the "W component" concerned "what I want to know", and the "L factor" concerned "what I learnt". These three concepts were suitable for application in the study, although Ogle's study mainly trained students to develop active reading from expository texts. Students collaborated to complete the activity and created their group-based self-dictation generation exercises.

3.4. Instruments

Learning achievement tests, questionnaires and a focus group interview were included as the instruments for the current study. After completing strategy instruction in the first stage, the pre-test and post-test were respectively administered in the ninth and last weeks of the study. This was followed by the Strategy of Inventory for Language Learning (SILL) questionnaires (Oxford, 1990). A focus-group interview was conducted with the participants to gain a more in-depth and comprehensive understanding of how they navigated the learning activity during a given period of the metacognitive listening training activity.

The achievement test sheets were developed by two experienced teachers. The pre-test consisted of questions about the learning content in the previous eight weeks to measure students' listening comprehension. It was made up of twenty multiple-choice items for examining listening comprehension with a perfect score of 100 in a mid-term English exam. The post-test also contained twenty multiple-choice items for evaluating

the students' listening comprehension of the lesson learning content from the pre-selected AVs. The perfect score of each of the pre-tests and the post-test was 100. Each test mirrored the learning content completed in lessons. Both tests were audio broadcasted and students were asked to answer the questions on the sheet.

The Strategy of Inventory for Language Learning (SILL) was developed by Oxford (1990) based on the learners' language learning strategy. The original SILL measure consisted of six dimensions (i.e., memory strategies, cognitive strategies, compensation strategies, metacognitive strategies, affective strategies, and social strategies), each of which contained different items. In the current study, the "metacognitive strategy" dimension was adapted to measure learners' metacognitive listening strategies. The measurement of metacognitive strategies consisted of nine items with a Cronbach alpha value of 0.78 (Park, 2011). The researcher conducted a focus-group interview with each group of students (see Appendix 1 for interview questions).

3.5. YouTube platform support

The learning pace was controlled by the learners themselves, in that, online-SDG activities asked not simply to create a dictation test but also to encourage participation, which could be practiced on the YouTube discussion board. The YouTube comment area presented written metacognitive reflections underlying students' strategy usages over time. Students were offered an environment (space) within the listening strategy training room and given an opportunity (time) to work on their own beyond the teacher-demonstrated strategy instructions. This encouraged them to be more thoughtful and responsible as they thought about what they learned and what they wanted to learn. Students first logged onto the YouTube webpage and filled in the blanks while recalling what strategies they had used during the time block from the previous two stages. They created dictation tests and reflected on the reasons why they had created a particular blank post on the YouTube public comment area (see Figure 1).
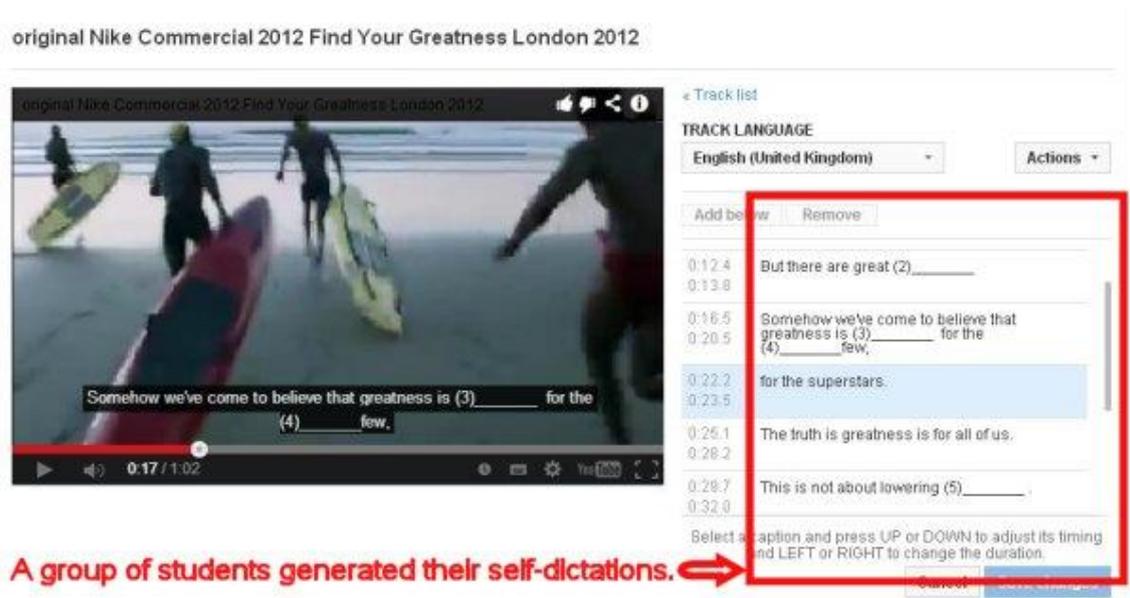

Figure 1.Students generated their self-dictation questions.

An example, based on a short TV commercial entitled "Find Your Greatness", was given by one group, which noted words such as 'athletic', 'reserved', 'greatness' and 'expectation'. They posted their perceptions of listening problems as spoken sounds that were difficult for them to predict, such as 'athletic' and 'reserved,' because the British accents and speaking speed made them difficult to follow (see Figure 2). Meanwhile, they chose 'greatness' as an option, since they had first predicted it in the first listening

and had made inferences about it from a previous video segment on greatness. They thus proposed using a prediction from a previous video segment to assist them with guessing the correct word and inferring the main topic of the video context. Throughout the monitoring processes, self-regulated learning was expected to elicit information on whether students were using appropriate listening strategies to accomplish the activity. The implementation of the online-SDG learning activity from the YouTube platform was expected to activate a dynamic and mixed practice of metacognition strategy at different stages during the activity.

Figure 2. An example of group reflections in the YouTube comments area.

4. Data analysis

Students' mental activities in the online video-SDG activity were collected for investigation of their 'personal knowledge' (identifying specific problems) and 'task knowledge' (strategic knowledge) in terms of examining their constructive understanding of AVs. While reviewing the data with another qualified TESOL researcher, codes with relevant themes were generated and served as an effective means to help researchers describe them and make inferences about the collected data. We adapted the metacognitive scale from the SILL questionnaires to fit the listening development on the basis of the listening strategies introduced. The nine items measured the perceived use of strategies and processes underlying listening comprehension as well as self-evaluating individual progress. Descriptive statistics were applied to examine whether there were significant results in the learners' use of metacognitive listening strategies. Listening achievement was examined by pre- and post- learning achievement tests in listening comprehension. The listening texts were all based on the part of the materials presented by the class. The paired samples t-test was adopted to analyse students' progress in listening ability.

5. Results

5.1. Students' awareness of metacognitive listening knowledge

Student statements from the public YouTube comments revealed (1) their self-perceptions and experiences of listening and explanations as to why their comprehension might fail, and (2) their task knowledge on how they deployed effective meaning-making strategies to gain meaningful understanding. Via the focus-group interview, they illustrated (3) how they viewed strategic knowledge as a way of enabling them to adjust their learning attitudes and manage their learning methods. From the data collected, research question one can be answered. First, in the YouTube comments area, students maintained that the speaking rate was the main problem blocking their comprehension because AV speeds were too fast and that they could not afford a moment's delay (Table 3, theme 1, frequency 145). Moreover, limited vocabulary kept them from understanding meanings (Table 3, frequency 156). Syntactic patterns and sentence constituents became a slight obstacle to listening comprehension (Table 3, theme 3, frequency 32).

Theme 1: Sound problems		
Code	**Statements**	**Frequency**
Speaking speed	The spoken discourse went by fast that I could not afford a moment's delay.	145
Intonation contours	I wanted to figure out the meanings but the sounds I heard seemed to lose a syllable; the precise meanings were confusing.	119
Stress & rhythmic patterns	Understanding words on the basis of sounds according to the sounds but my interpretation could not fit the context.	123
Tone patterns	• British AVs are difficult to understand since we were familiar with the American tone. • When watching AVs from non-English speaking countries, such as French AVs presented in English, the tone of voice was difficult to understand.	86
Theme 2: words		
Code	**Statements**	**Frequency**
New vocabulary	I could not figure out the exact word shown on the CF although I knew it and heard the sound very clearly.	156

| Word boundaries | It is difficult to determine the actual words used although you were aware that certain words were missing. | 143 |
| Keywords | I did not know which specific word could identify this AV since so many words seemed to fit. | 25 |

Theme 3: grammar		
Code	**Statements**	**Frequency**
Syntax	• The sentence appeared illogical although we tried to brainstorm meanings by combining words into sentences. • Tenses changed confused us; for example, when they appeared, we didn't notice from sounds.	32

Table 3. Students' perceptions of personal knowledge of metacognitive listening development.

In addition to personal knowledge, students explained the task knowledge they understood as a way of appreciating their understanding of the authentic listening material. Prediction was the skill most frequently cited among the top-down strategies (Table 4, theme 1, frequency 231), while selecting specific keywords became the first priority of skills usages in the top-down strategies (Table 4, theme 2, frequency 208).

Theme 1: Top-down skills		
Code	**Statements**	**Frequency**
Prediction	AVs situations and contexts made me guess the meanings of the videos. When watching CF, we liked to guess unknown words. We guessed the meaning and matched it according to the video context from the sound we heard.	231
Drawing inferences	I looked carefully at the segment of films, including music, sounds and conversation video shown, to help me make inferences about the ideology the AVs wanted to express and its operations in attracting customers to buy it. The screen showed slogans or other capitalized words while watching the film; I tried to make inferences about what products they were going to sell. Our group liked to draw inferences about its attractiveness for target groups and evaluated its acceptance.	86

Theme 2:bottom-up skills		
Code	**Statements**	**Frequency**
Keywords	While generating a dictation blank, it made me concentrate on which specific keyword would identify the main meaning.	208
Looked up the dictionary	We learned many new words and understood their use through the video plot presented by looking up meanings in an online dictionary.	243
Syntax	I noticed that the tense changed in different situations. This blanket was an adjective word, but it was not a key point in gaining comprehension. The blanket was about a position since the previous word indicated this.	63
Word-order patterns	We tried to think about word-order patterns and verified our prediction by looking up meanings in the dictionary.	62
Distinguishing sound	The tone here was very different from what I had leaned. Here, a syllable was deleted and was shown as a linking sound there. I recognized the assimilation in this part.	56

Table 4. Students' perceptions of task knowledge of metacognitive listening development.

As presented in Tables 3 and 4, students were able to use their abilities in ways that diagnosed their individual listening problems and helped them adapt listening strategies for listening comprehension as shown in the Table 3. For example, they found it difficult to choose correct words while listening to the materials, despite being familiar with their possible meanings, a fact that had an impact on their listening flow (Table 3, theme 2, word boundaries). However, after they understood where/why their comprehension broke down, they recognized the importance of the deployment of listening skills and began making inferences about key word meanings in the video segment (Table 4, theme 1, and drawing inferences). Some students noticed the change in syntax and predicted a specific word as an adjective style, but they also distinguished its importance by saying "The blank here was an adjective format, but it was not a key point in gaining comprehension". The metacognitive reflections displayed in Tables 2-4 made students actively involved in evaluating their self-concept of the listening process and becoming active thinkers.

Students expressed their conceptions about strategic knowledge and how they perceived strategy usage in facilitating their learning and handling their ineffective strategies from the focus-group interview and open questions. For example, in Table 5 (statement 1), students stated that the online video-SDG learning activity helped them learn by doing and actually trained them to check the thinking process such as writing down the strategies they used, the strategies they wanted to use, and the ones they did. Some students also indicated their poor previous experiences of learning authentic listening texts, such as looking up every word in the dictionary, which caused frustration in terms of learning listening skills (Table 5, statements 2-3). One student stated: "I tended to pause the video to look up word meanings in the dictionary without listening to the entire film. And I had no idea what top-down and bottom-up listening strategies were until I joined the online video-SDG learning activity. Now, I try to combine both ways to help me understand the meanings." In addition, other students mentioned that group work contributed to their learning in identifying, applying and examining their strategy usage: "group work is really good especially in terms of listening to other

classmates' opinions on how they solved their listening problems and their specific tactics of prediction and inference. "In this case, through an engagement in the online video-SDG activity and working with peers in sharing experiences about the strategies and tactics used, participants' further developed their metacognitive listening strategies.

	Statements	Frequency
1	The online video-SDG activity training offered me an opportunity in terms of the thinking process of managing listening learning, such as what strategies I used, I can use and what other strategies might be able to lead to comprehension; the non-SDG activity provided an opportunity to take control of the listening practice without thinking about the whole process of learning.	16
2	I checked every word I did not know once I encountered them during listening. I paused to look up dictionary meanings without listening to the entire film. I had no idea of top-down and bottom-up listening strategies until I joined the online video-SDG activity. I tried to combine both ways to help me understand the meanings.	15
3	When I saw an AV, I was very nervous to follow the plot. But, after the class, I realized I needed to relax myself because the video could reveal clues. I then listened carefully to break in the stream of information coming from the video in order to prepare myself for what clues might come next; I could then sort the important content as I went along.	12
4	When I was trying to watch the AV, I thought firstly about the purpose of the video. After understanding its purpose, I then worked on the comprehension of the AV.	12
5	I tended to reduce or ignore the redundancy of words appearing on the AV such as adjectives or adverbs used to describe nouns or verbs. I could then gain a general idea of what the video was about.	12
6	Group working was really good as a medium to listen to other classmates' opinions on how they solved their listening problems and their specific tactics in terms of prediction and inference.	10

Table 5. Students' perceptions of strategic knowledge of metacognitive listening development.

5.2. Students' awareness of metacognitive strategies

Table 6 shows the mean and standard deviation of each metacognitive strategy questionnaire item that could answer research question two. Apart from items 8-9, most of the means were high (between 4.21 and 3.52). We can conclude that developing students' metacognitive listening awareness by using the student self-dictation-generation approach was successful. For items 8-9, one participant stated "After studying the video content, I tend to look for people with whom I can converse in English". This implies (or it is known) that many of the night students work part- or full-time during the day and use these opportunities to practice English. From the focus interview, students also expressed their limitations in terms of time to revise the learning content and practice listening skills regarding the strategies introduced by the class. As such, due to night time study, they had very little time to plan their study and sought people with whom they could practice English. Therefore, training them to be self-directed learners was fundamental. Metacognitive awareness in this stage played a crucial role in activating their management in terms of controlling and monitoring their study.

	Metacognition skills	Mean	SD
1	I notice my English mistakes and use this information to help me do better.	4.21	.645
2	I pay attention by listening when someone is speaking English in the advertisement videos.	4.14	.683
3	I look for opportunities to read and listen as much as possible in English.	4.02	.780
4	I think about my progress in learning English listening.	4.00	.870
5	I try to be a better learner of English by listening.	3.93	.778
6	I have clear goals for improving my English listening skills.	3.52	.833
7	I try to find as many ways as I can to use the English that I have learned from the video content.	3.50	.919
8	I plan my schedule so that I can have enough time to study English listening.	3.39	.891
9	After studying the video content, I tend to look for people with whom I can converse in English.	3.12	.739

Table 6. Descriptive statistics of each metacognitive strategy questionnaire item.

5.3. Learning achievement

In order to answer the third and final research question, we examined students' listening progress through the implementation of metacognitive strategies. To do so, differences between the pre- and post-test scores in listening comprehension were investigated. A paired samples t-test was employed to decide whether there was a significant difference between both tests. The results presented in Table 7 below indicate that the mean score of the post-test in the online video-SDG activity (M=58.98) was greater than that of the pre-test without the video-SDG activity (M=41.94). In addition, there were significant differences between pre-test and post-test scores (t= 4.418, P< 0.001). The students improved and performed better on the listening achievement test when they participated in the online video-SDG activity.

Learning achievement	Mean	SD	t
Post test	**58.98**	11.832	4.418***
Pre-test	**41.94**	8.995	

*** P < .001

Table 7. Paired-samples t-test for pre-test and post-test listening comprehension.

6. Discussion and conclusion

By incorporating student online-SDG learning activities, the study presented an effective way of training students to develop metacognitive strategies in L2 listening. Students involved in the online video-SDG activity performed significantly better on listening comprehension tests. They not only created their dictation questions, thereby

reinforcing their practice in listening strategies, they also learned to monitor and evaluate their strategies by recalling their strategy usages and reflecting on their listening problems. This differs from other studies that analysed teachers' strategies or demonstrated a particular strategy without decently manipulating strategic training activities in the learning process during a regular listening teaching program (Ratebi & Amirian, 2013). The limited instructional time was dedicated solely to strategy training and practice, and specific tasks were addressed, which students were asked to complete (McGruddy, 1998; O'Malley & Chamot, 1990). In other words, allowing students to deploy and freely practice strategic knowledge in a friendly and flexible learning environment is crucial to the development of their metacognitive classroom-based learning.

In the present study, stressing retrospection on strategy usages, students had opportunities to assess their self-perceptions of the application of metacognitive listening. By stressing the metacognitive instructional process, students perceived the conceptions and methods of learning listening and evaluated their listening strategy methods that could be applied in other listening learning settings. The study was in line with the development of metacognitive knowledge and strategies, which devised a free platform for developing students' self-concepts of and approaches to listening. We found three significant factors to help students improve metacognitive awareness while they were involved in the metacognitive learning activity. These factors are as follows:

First, it is highly possible that students were not aware of the strategies that could support their comprehension (awareness of strategic knowledge) and how to handle these strategies to help them when comprehension broke down (control of strategies). The designed activity required an active use of the above concepts; otherwise, listening strategies introduced by the instructors might have faded. Similar to Lai and Gu (2011:331), it is essential to develop learners' metacognitive awareness and 'to use technology actively' to aid language learning when engaging them in a technology-supported learning environment. The current activity offered students an opportunity to examine their learning. Rather than generating a perfect test or mastering question-generation skills, students were situated in the process of retrospection on self-concept in metacognitive strategy knowledge in L2 listening. This follows O'Malley, Chamot, Stewner-Mazanares, Russo, and Kupper (1985:561) that "students without metacognitive approaches are essentially learners without direction or opportunity to review their progress, accomplishments, and future directions."

Second, providing students with sufficient time to practice listening strategies in classroom-based learning is vital in order to allow them to learn at their own pace. The materials chosen for the listening class were elicited from the YouTube website. Students benefitted by clicking on the AV from the internet with the possibility of mastering their listening strategies anytime and anywhere. Students, after practicing their listening strategies, could be consciously aware of what they learned, further examining and evaluating their progress with the use of these strategies. In other words, learner autonomy and self-directed learning can be developed for future listening activities so that one can plan, manage, monitor and evaluate one's listening time, approaches, and strategies to accomplish listening goals.

Lastly, arranging group work contributes to the learning of metacognitive listening skills since social interaction is beneficial for students to discuss and share what strategies they have used or when to carry out these strategies when problems arise. Students could brainstorm to think about tough questions and solve problems. Group discussion is a platform of knowledge sharing and group members could discuss strategic knowledge, task knowledge, and evaluate the strategies of other classmates, providing that they are aware of such strategies.

Acknowledgements

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Appendix 1. Interview questions.

1. Do you encounter problems when your comprehension breaks down?
2. How do you deal with problems when your comprehension fails?
3. Do you find strategies useful to help you understand meanings? In what ways?
4. Do you find your strategy unhelpful in aiding meaning comprehension? In what ways?
5. How you deal with your negative skills?
6. Do you think that the online video-SDG learning activity can aid with your listening comprehension? If so, in what ways?
7. What do you think about the group work in the online video-SDD learning activity? Were they helpful? Why/why not?

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