



Metacognition and Podcast Use: Developing German Language Learner's Listening Skill

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Abstract. German language beginner learners faced difficulties in learning the listening skill, such as limitation in vocabulary knowledge, the pace of oral L2 input, and the lack of listening materials. Because of those, learners' learning results are not optimal. Learners are pushed to use learning strategies and get more listening practices. Metacognitive strategies can help learners in improving their listening skill. Educators tend to integrate technology in their classroom, for instance, the use of podcasts in the context of language learning. Podcasts, beneficial tool to give supplemental materials, can help learners to improve their listening skill and also help learners to acquire the target language (L2). This paper examines whether metacognitive instruction and the use of supplemental material that can promote the listening skill of German learners. This is a quasi-experimental research with five weeks of the intervention program. The questionnaire and the language test were used. The data were analysed with statistic descriptive and t-test. The results showed experimental group learning results increasing, however, t-test results showed that there is no significant difference between learning results between control and experimental groups. It can be concluded that metacognitive strategies and podcast use can help the experimental group improving their listening skill.

Keywords: Adult Learners · German Language · Listening Skill · Metacognition · Podcast

1 Introduction

Listening is seen as an active and complex interpretation process of listeners to compare what they heard with their prior knowledge [1]. Listening skill is the heart of second or foreign language (L2) learning, so it is very important for learners to develop their listening skill because they need to understand the L2 input that is mostly delivered orally [2]. However, listening skill is often stated as the most difficult language skill by learners. The difficulties such as unable to recognize the sounds or words, the difference of speaking pace between L2 and learner's mother tongue (L1), and the listening text consists of long sentences. In the previous research, the main problem in L2 listening is the inability of the learners to comprehend the content of the L2 listening text [3]. Vandergrift and Goh stated that compared with writing, reading, and speaking skills,

the development of listening skill received the least systematic attention from teachers and instructional materials. The complexities of the listening process become one of the reasons for the less number of researches about the listening skill [4].

The difficulties later encourage learners to be able to use learning strategies. In his book, Buck wrote that generally, L2 learners used cognitive and metacognitive strategies during the process of L2 listening learning [5]. Cognitive strategies refer to the strategies involving learners' awareness, perception, reasoning, and conceptual process when learning the L2 and when learners activate their prior knowledge [6], for instance when learners able to identify, classify, remember and store the L2 learning, and they are able to recall and reuse it again by integrating the new information and prior information.

Metacognitive strategies refer to the strategies involving learners to know and to control the learning process by planning, monitoring, and evaluation of learning activities [7]. With metacognitive strategies, learners are getting more aware of their learning by making organized planning and by monitoring their learning progress. Metacognitive strategies can help learners understanding their learning process and the task that was given to them, and also help the L2 learners gain higher achievements in language learning [8]. Metacognitive strategies consist of three main activities: planning, monitoring, and evaluating in learning to listen.

Vandergrift et.al grouped the metacognitive listening strategies into five different factors [9]; the first is *Problem Solving*, a group of strategies that learners use to make a presumption about what they didn't understand while listening and to monitor their inference by focusing throughout the listening. The second is *Planning and Evaluation*, refers to group strategies that help learners to be more ready in L2 listening and it can help learners to decide the solution of the issues they faced during the listening and also gave chance to learners use their prior knowledge related to the listening text topic for checking their inferences towards the listening text [10].

The third is *Mental Translation*, a group of strategies that learners use to translate the L2 words directly while listening into L1 whereas the use of this strategy is expected to be less than other strategies. The fourth is *Directed Attention*, refers to the strategies that help learners to be more focused and concentrate on L2 listening text, and the fifth is *Person Knowledge*, refer to learners' perceptions towards the difficulties they faced while listening and their self-efficacy in L2 listening.

The metacognitive pedagogical cycle was used to give metacognitive strategies instructions in this research. As Vandergrift and Goh mentioned in their book that the metacognitive pedagogical cycle consists of five phases, they are (1) *pre-listening*, (2) *first verification*, (3) *second verification*, (4) *third verification*, and (5) *self-reflection*. Through this metacognitive pedagogical cycle, we can give metacognitive strategies instructions without the need to separate the strategies instruction with the main language material in the classroom.

Each phase reflects the metacognitive strategies so that the learners can learn the strategies through a whole cycle in one learning session. As Renandya and Farrell stated that once the strategies instruction are given in the classroom usually it takes more time than teachers think and most of the implementation is usually taking the proportion time for the main material of L2 listening [11]. Besides using the metacognitive listening strategies, the important thing to do is to improve L2 listening through extensive listening.

Vandergrift et.al stated extensive listening is referring to the way learners exploit listening resources available outside the classroom to increase their exposure to the L2 spoken language. One of the popular ways to facilitate the implementation of extensive listening is the use of a tool called Podcasts. Podcasts are having huge potential to improve learners' listening skill.

Podcasts were not originally made for L2 learning but now it can be used in L2 classes to promote listening comprehension and intercultural competence. Furthermore, podcasts also able support language acquisition of the target language. In this research, the podcasts are made by the researcher and related to the current topic from the handbook. The listening texts are shorts texts; narration and descriptions texts.

McBride stated that by using podcasts, the learners have chance to replay the podcast audio file for themselves whenever and wherever they want because each learner is having different needs to reach the understanding of L2 listening [12]. Podcasts are audio or video files published via the internet, designed to be downloaded to an MP3 player or laptop for future listening [13]. The podcast use can help learners reinforce the listening materials and strategies taught in class and offer learners opportunities to practice the strategies through listening beyond the classroom [2].

The previous research already showed some positive results of the use of metacognitive listening strategies. These strategies successfully facilitate learners to enhance their listening skill, particularly in assisting them to solve the issues while listening to the materials and to better understand the listening or audio clip from the language learning materials. With the emergence of a new technology, known as podcast, this research seeks to implement its usage as additional listening material and to combine it with other metacognitive listening strategies.

This paper is pre-experimental research, which aims to examine the hypotheses; whether the metacognitive listening strategies instructions and podcasts use can help learners' improving the German language learners' listening skill. This paper focused on the learning results between the experimental and control groups after the intervention program. Furthermore, this paper also aims to explore learners' perception towards the use of podcasts as the listening supplemental materials by using questionnaire and interview procedure.

2 Method

2.1 Research Context

This study analysed the effect of metacognitive instruction and podcasts use to develop German learners' listening skill. The research was conducted at the German study program at University X in Jakarta. The program aims to create a professional German language teacher with minimum language proficiency B1 level according to CEFR (Common European Framework Reference), a translator, travel guide and office worker. The intervention program included metacognitive strategies instruction, podcasts use as supplemental learning materials and done in five weeks. The intervention program was only for experimental group; meanwhile, the control group was not getting any instruction related to the metacognitive pedagogical cycle.

2.2 Participants

Participants of this study are 36 learners registered in the subject Listening and Speaking 2 (*Hören und Sprechen 2*). The participants were from two different classes, one as a control group and one as an experimental group. The experimental group consists of 19 learners and the control group consists of 17 learners. All involved learners are in first-year learners and the language learning material given to them are in the level A2 (basic user) according to CEFR level.

2.3 Research Instrument

The research instruments used are two practice modules of German language proficiency test, metacognitive strategy questionnaire, field notes and interview, and self-made podcasts. There are two different listening test telc A2 used in pre-test and post-test in the experimental and control class. The test is adapted from German language proficiency test for A2 level, but in this research, I am only using the listening session. Each test in both groups occurred for 15–20 min. The test consisted of three parts and had in total 15 questions.

The questionnaire used in this research is from Vandergrift et.al called, MALQ (Metacognitive Awareness Listening Questionnaire). This questionnaire consists of 21 items representing five different factors of metacognitive strategies. This MALQ can be used to identify the use of metacognitive strategies from the learners of both groups. Researcher' field notes aim to check whether the teacher gave the listening instruction with the metacognitive pedagogical cycle. The field notes contained a description of classroom situation including teachers' instruction and also learners' responses toward the metacognitive instruction in the classroom. Furthermore, semi-structured interviews were done with four learners from experimental class; two learners got the highest score and two learners got the lowest score of post-test.

This technic is known as a sample-resample interview, which means the number of respondents is from the sample population of participants [14]. This interviewing procedure can help the researcher to get detailed information about learners' responses towards the metacognitive instruction. In this research, the supplemental listening materials are given to the learners by using podcast application. The materials were self-recorded by the author and the listening texts were adapted from the topics of their handbook. However, all the self-made podcast audio by the author are monolog. The listening texts are mostly an informative text or description text.

2.4 Data Collecting

The pre-test was first distributed to both classes. After the test, the teacher in the experimental class started to give their listening instruction with the metacognitive pedagogical cycle for five weeks and give supplemental material through podcast tools. The supplemental materials were related to the topic of learners' handbook. The control group was not having any instruction with metacognitive pedagogical cycle and also did not get any supplemental material through podcasts. Field notes are done during the intervention program observation.

In the last weeks, the post-test was given to both, experimental and control classes. The post-test aim to get the learners listening score after the intervention program was given and this score was used to check whether there is any significant difference of learners' listening skill between experimental group and control group. At the end of the class, the MALQ were given to the learners of both groups. This questionnaire was used to collect the data about the using of metacognitive strategies by learners.

The MALQ results showed the use of metacognitive strategies by learners in the experimental groups. Later, four learners from the experimental group are involved in the semi-structured interview. The interviews aim to collect more detailed data about learners' opinion towards the metacognitive pedagogical cycle and the use of podcast as a tool to distribute the supplemental material.

2.5 Data Analysis

The collected data from the questionnaire were analysed using SPSS; meanwhile, the interview and field notes were used to explain the results of the questionnaire results. The MALQ scoring system is based on the six-Likert scale; (1) strongly disagree, (2) disagree, (3) slightly disagree, (4) partly agree, (5) agree, and (6) strongly agree. The calculation is to determine the degree of listeners uses metacognitive strategies. There are 21 questionnaire items and six of them are reverse code items (3, 4, 8, 11, 16, and 18) means lower scores are desirable for these items.

The descriptive statistics were used to explore the scores of pre- and post-test from both groups. To examine the effect of the intervention program, the t-test procedure was used to analyse the differences results of the post-test mean scores between the experimental and control class. The interviews results can be used as supporting evidence from the test, questionnaires procedures and also to explore the learners' perception towards podcasts use.

3 Results and Discussion

3.1 Pre-test and Post-test Result

In this part, we can see the descriptive statistics table of pre-test score from experimental and control groups: Items (3, 4, 8, 11, 16, and 18) means lower scores are desirable for these items.

Table 1 showed that the experimental group pre-test minimum score is 1,3 and the maximum score is 7,3 meanwhile control group minimum score is 3,3 and the maximum

Table 1. Descriptive Statistics Pre-Test Result [15]

No.	Groups	Pre-test Result			
		N	Min	Max	Mean
1	Experimental	19	1,3	7,3	3,8
2	Control	17	3,3	9,3	5,7

Table 2. Descriptive Statistics Post-test Result [15]

No.	Groups	Post-test Result			
		N	Min	Max	Mean
1	Experimental	19	3,3	8,6	6,28
2	Control	17	3,3	8,6	6,35

Table 3. Increasing Mean Point [15]

No.	Groups	Increasing Mean Point			
		N	ΣD Post Test	ΣD Pre Test	ΣDx-y
1	Experimental	19	119,4	73,2	46,2
2	Control	17	108,1	98,2	9,9

score is 9,3. From the Table 1 it can be seen that the pre-test means score between experimental and control class have 1,92 point difference. Mean score of the control group was higher than experimental groups. It indicated that learners from both classes have different current language abilities though they all are in their first year learning the German language in the university.

Table 2 showed that the experimental and control group post-test minimum and maximum scores are the same. The post-test means score between experimental and control class has 0,07-point difference. Mean score of the control group was higher than the experimental groups. This indicated that learner’s language abilities are more or less the same when they did the post-test, although only one group got an intervention program.

Table 3 showed the increasing point from pre-test to post-test of both classes. Experimental group mean score is increasing for 2,43 points meanwhile, control group mean score is increasing for 0,58 point. From the results, it can be stated that experimental groups increasing point is higher than control group. This indicated that the intervention program with metacognitive strategies instructions can help the experimental learners to improve their listening skill. However, to examine whether there is any significant difference between post-test results, t-test procedure needed to be done.

3.2 T-Test Result

The t-test procedure aims to examine whether there are any significant difference from post-test scores between experimental (M_x) and control groups (M_y) after the intervention program. Because of the limitation of small sample being used, the t-test procedure was done manually.

$$M_x = \frac{\sum x}{N_x} = \frac{119,4}{19} = 6,28$$

$$\begin{aligned}
 M_y &= \frac{\Sigma y}{N_y} = \frac{108,1}{17} = 6,35 \\
 SE_{M_x - M_y} &= \sqrt{SE_{M_x}^2 + SE_{M_y}^2} \\
 &= \sqrt{(6,45)^2 + (6,55)^2} \\
 &= \sqrt{41,68 + 42,96} \\
 &= \sqrt{84,647} \\
 &= \sqrt{84,647} \\
 &= 9,2 \\
 t_o &= \frac{M_x - M_y}{SE_{M_x - M_y}} = \frac{6,28 - 6,35}{9,2} = \frac{-0,07}{9,2} = \mathbf{0,007}
 \end{aligned}$$

The t-test procedure aims to get the t_o score by using the post-test mean scores from both classes. From the t-test procedure, the results of t_o is 0,007.

$$df = (N_x + N_y) - 2 = (19 + 17) - 2 = 36 - 2 = \mathbf{34}$$

Furthermore, we need to get the degree of freedom (df). The df used to find the t table (t_t) score. The t_t score with 5% significant is 2,04 and t_t score with 1% is 2,75. From The results, t_o is lower than t_t .

$$(2,04 > 0,007 < 2,75).$$

It means (H_o) is accepted, so there were not a significant differences of *post-test* scores between experimental and control class. This indicated that the intervention program in the experimental groups was not significantly affecting the learning results.

3.3 Metacognitive Strategies Questionnaire Result

After the intervention program, metacognitive strategies questionnaire were given to both groups, experimental and control. The aim of MALQ is to identify the use of metacognitive strategies from both groups.

Table 4 showed the most used metacognitive strategies and the least used metacognitive strategies indicated by the mean scores. From the table, we can see two questionnaire items with the highest mean scores. There is questionnaire item Q5 and Q20, meanwhile, the lowest mean score is from item Q16.

Item Q5 "I use the words I understand to guess the meaning of the words I do not understand" belongs to *Problem-solving* strategies and the mean score is 5,05. The mean

Table 4. Metacognitive Strategies Result [15]

Metacognitive Awareness Listening Questionnaire Results			
Item	Min	Max	Mean
Q1	4	6	4,85
Q2	1	6	4,68
Q3	2	6	4,75
Q4	1	6	3,84
Q5	4	6	5,05*
Q6	2	6	4,63
Q7	3	6	4,68
Q8	2	6	4,81
Q9	4	6	5,00
Q10	3	5	4,32
Q11	3	6	4,32
Q12	4	6	4,95
Q13	1	6	4,32
Q14	4	6	4,68
Q15	1	6	3,69
Q16	1	6	2,79**
Q17	4	5	4,68
Q18	3	5	4,16
Q19	4	6	4,79
Q20	4	6	5,05*
Q21	4	6	5,00

*) The highest mean score

***) The lowest mean score

scores indicated that learners from the experimental class agree to use their vocabulary knowledge to help learners guess new unfamiliar words when they listening to the learning materials. Next, item Q20 “As I listen, I periodically ask myself if I am satisfied with my level of comprehension” belongs to *Planning and Evaluation* strategies and the mean score is 5,05. This indicated that the learners are agreeing that they sometimes evaluate their listening performance by asking themselves and assessing their understanding of the listening text.

The lowest mean score is questionnaire item no.Q16 “When I have difficulty understanding what I hear, I give up and stop listening” belongs to *Directed Attention* strategies. Item Q16 mean score is 2,79 and indicated that learners didn’t agree that when facing difficulties they might stop listening to the listening text. Item Q16 is a reverse code item that means the lower mean score is desirable. The higher mean score also indicated the

more learners stopped listening when facing difficulties. Higher mean also suggest that learners are unable to complete a listening task in class or real-time communication. The learners needed to be able to continue listening and receive input to complete the listening task and understanding the text.

3.4 Podcast Use Results

A podcast using in the experimental groups was only for three sessions. To get learners to opinion towards the podcast use and their familiarity with it, we use the self-reflection paper. From the self-reflection paper, it can be shown that from 19 learners in the experimental group, there are only eight learners who knew about Podcast and 11 other learners did not. This indicates that more than half of learners from experimental didn't have any experience of using podcasts.

From eight learners who already know podcasts, six of them are listening podcasts delivered in English and Bahasa for entertainment purposes. Unfortunately, only two of them are listening podcast in the German language for language learning purposes. The German language podcasts used by the learners are *Deutsche Welle* and *Dominez*. This *Deutsche Welle* podcast has materials from beginner level into advance; meanwhile; *Dominez* podcast materials are more into daily life and communication in Germany.

The learners also filled the self-reflection paper, and the paper consists of the self-assessment table for learners with four-Likert scale (1) I didn't understand at all, (2) I quite understand, (3) I understand, and (4) I very understand. This self-reflection paper aims to help learners assessing their understandings toward the podcast listening texts.

From Table 5, it can be concluded that the podcast 1 mean score is $2.73 > 2,5$ and it indicates that the learners overall understand the listening text from the podcast. In the next session, for podcast2 the mean score is increasing to $3.00 > 2,5$ and indicated that the learners understand the listening text. The last session of podcast 3 means the score is $3,36 > 2,5$ and explained the experimental learners understand the listening text.

From those three podcasts mean scores, we can conclude that the mean score is gradually increasing. That means the learners also gradually understand the listening text from podcast since the first time until the third time they listen to the podcasts. It is also can be seen in the minimum and maximum scores that is the first time podcast use there is one learner who didn't understand the listening.

Later for second and third-time podcasts given the minimum scores indicated that experimental class learners already understand the listening text. These results showed

Table 5. Podcast Use Questionnaire Results [15].

No	Podcast Use in Experimental Class				
	Groups	N	Min	Max	Mean
1	Podcast 1	19	1	3	2,73
2	Podcast 2	19	3	3	3,00
3	Podcast 3	19	3	4	3,36

that slowly the learners are getting more familiar with the listening learning material from podcasts. Learners are also gradually gaining their understanding of the podcasts listening materials.

3.5 Interview Results

The interview aims to collect more detailed data from learners about the metacognitive instructions and their opinion towards the use of podcasts as supplemental material. There are only four learners from the experimental group involved in the interview. Two learners who got the highest post-test score and two others got the lowest post-test score. The interview occurred after the metacognitive instructions completed.

The first question is related to the learners' opinion towards the first phase on a metacognitive pedagogical cycle called *pre-listening* phase. In this phase, teachers gave some sort of introduction to the learners about the topic or theme of the listening text that the teacher will give later. Not only explaining but the teacher also gave learners the chance to guess the keyword that they might have heard by giving one example of a related word to the L2 listening text.

TEM: "as I think when the teacher is giving initiation in the classroom before we listen the L2 listening text is a very helpful way to help me to get know what I need to and to prepare my mind to listen to the task".

From the example, it can be concluded that learners are giving positive response towards the pre-listening phase. They see it as a useful procedure that can help them ready to listen to the task by activating their memory that is related to the listening text. From the given information in the *pre-listening* phase, learners also able to anticipate the information contained in the L2 listening text.

The second phase in the metacognitive pedagogical cycle is the *first verification* phase. In this phase, the teacher played the L2 listening text in the classroom and suggested the learners a chance to make a small note during the listening, to get some needed information to understand and to answer the listening task. After the first listening is finished, the teacher asks the learners to do peer discussion about the text.

RFQ: "During the discussion time, I'd like to discuss our global understanding from the listening text rather than to discuss and focus on how we can answer the listening tasks".

From the answers above, it can be concluded that learners tend to discuss their understanding of the L2 listening text rather than discuss the answers to the listening task. During this phase, learners share their opinion and check whether their opinion or inference is accurate.

The third phase is the *second verification* phase. In this phase, teachers are giving learners the second chance to listen to the L2 listening text. In this phase, learners are suggested to check their understanding by checking and paying more attention to the parts that they have lost track in the first listening chance. After the second listen is finished, the learners are strongly recommended to discuss again. This discussion aims

to reassure the information that learners get from the first listening and to check what kind of information from the listening text that they haven't understood yet.

MIS: " in the second discussion, we are more like....focused on the understanding of the L2 listening text, because it is very important to help us answers the listening task".

The answers above explained that learners used this phase to re-check their understanding of the listening text and to find out the information needed to answer the listening task.

The fourth phase is the *third verification* phase. In this phase, the teacher leads the classroom discussion. The discussion focused to explain the L2 listening text and teacher also gave learners the transcript of L2 listening text. These transcripts were given to give learners a chance to check the written form from what they have heard previously. Once the transcript texts were given, the teacher played the L2 listening again for the last time. This procedure helps learners to reassure about what they have heard such as the text content, unknown words.

MIS: " Using the transcript of L2 listening text is helpful for me because I understood more about the listening text and it helped me realize as if my interpretation of the text was not right".

From the answers above, it can be concluded that learners are more focused on the text transcription is given. They found the transcript can help them to check their understanding of the L2 listening text. The transcripts are also helping them to get new knowledge about new words and their use.

The last phase is the *self-reflection* phase. In this phase, the teacher distributed the self-reflections paper to the learners. The self-reflections paper aims to give learner chance of assessing their listening perform and understandings. Through this self-reflection, learners can learn to identify their difficulties and how to cope with those difficulties. The last part of the self-reflection paper asked learners to write down their next target or goals in listening. From the answer below, it can be shown the positive response towards the distribution of self-reflection paper.

TEM: " Through this self-reflection paper, I can assess my learning process and also understanding. It also helps me to make my next target when facing the L2 listening text. When I write my next goal, then I always remember that I must complete that goal to make me better in listening".

The last question of the interview is related to podcasts use as a tool to distribute the supplemental material.

MIS: "The supplemental material from podcasts is quite helpful for me. But in my opinion, it is better when the podcasts are given can be adjusted again, particularly in word use. Because I think some of the words used in the podcasts are very hard to understand and maybe it does not fit to our language level proficiency".

TEM: "The podcasts are very interesting and helpful for me and also....it helps us to gain more concentration while listening. The best part is the theme of the podcasts are fitted to our learning materials from handbooks".

From the answers, it can be concluded that students from experimental groups are giving positive response to the use of podcasts use to distribute the supplemental material. The learners are fond of the idea if their teacher uses podcasts in the future to give them supplemental materials.

4 Conclusion

Metacognitive strategies instruction and podcast use can help experimental learners improving their listening skill, however, there is no significant difference of post-test scores between experimental and control groups. Learners are giving positive opinion towards the use of metacognitive pedagogical cycle and podcasts. For the future research, it is recommended to give longer time in the intervention program and to use a bigger sample of learners so that the results can be generalized to the context of the learning listening skill.

Acknowledgments. I would like to express my deep gratitude to Sonya P. Suganda for her valuable and constructive suggestions during the planning and development of this research work. She also helps me in keeping my progress on schedule until our research work finished. I would also like to extend my thanks to Kurniarsih Ratri Handayani for enabling me to visit their department to observe and collecting the data from the students.

Authors' Contributions. Dwi Putri Ningsih carried out the experiment and Sonya P. Suganda contributed to the Interpretation of the results and supervised the project. All Authors provided critical feedback and helped shape the research, analysis and manuscript.

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