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Literature Review on Second and Foreign Language Listening Strategy Research in the Past Fifty Years: Problems and Future

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***Abstract*—Listening comprehension is one of the four essential language skills and it plays an important role in language learning and acquisition. However, despite its importance, foreign language learners often regard listening as the most difficult language skill. Against that background, some researchers have suggested that the proper use of listening strategies could effectively improve listening performance. The current research includes a literature review on previous research involving listening strategy research, which may provide some insight for the problems or research gaps that are present in current research. In addition, the suggestion for future development in relation to the aforementioned will also be offered.**

***Index Terms*—Second language listening comprehension, Listening comprehension strategy**

I. Introduction

Listening comprehension is one of the four essential language skills and it plays an important role in language learning and acquisition (Rost, 1991). It has been noted that if language learners cannot listen effectively, mastering other language skills (reading, speaking, and writing) will also prove difficult (Rintaningrum, 2018). However, despite its importance, foreign language learners often regard listening as the most difficult language skill to acquire. (Hasan, 2000; Altuwairesh, 2021). Against that background, some researchers have suggested that the proper use of listening strategies could effectively improve listening performance (Vandergrift, 2003; Gilakjani & Sabouri, 2016), since they can help the listener overcome difficulties during listening (Field, 2008; Siegel, 2014).

Due to the importance of listening strategies, the present research includes a literature review on previous research involving listening strategy research, which may provide some insight for the difficulties or research gaps existing in current research. Besides, the suggestion for future development in this regard will also be offered. This article will first introduce the definition of listening strategy, and then, due to the close tie between listening and language learning strategies, this article will introduce the concept of listening comprehension and listening strategy respectively. Then, it will review previous research of language learning and listening strategy research in the past fifty years. After that, the present study will illustrate some criticism on extant listening strategy research based on previous research, then some suggestions for future development will be offered.

II. Definition and Classification of Listening Comprehension

Listening comprehension is considered an active skill that involves many processes, in which the listener must delineate sounds, understand vocabulary and grammatical structure, interpret stress and intonation, as well as interpret it within the larger sociocultural context of the utterance (Vandergrift, 1999). According to previous literature, there are different ways to classify listening comprehension, such as authentic and inauthentic listening, extensive listening (listening to material once and listening continuously without repeating or pausing in the middle, which actually mimics real-time listening), and intensive listening (understanding the meaning of each discourse in order to understand every sentence and word, which usually involves listening and repeating practice by pausing or rewinding the listening input.), and so on. Now we will introduce the definition of listening strategy.

III. Definition and Characteristics of Listening Strategy

As for the definition of listening strategy, it has been recognized that there is a lack of consensus about this term (Ellis, 1994). For example, Vandergrift (1999) defines listening strategy as the mental process that language learners are

involved in for the purpose of understanding the oral text. While Rost (2013) defines listening strategies as "conscious plans to manage incoming speech, particularly when the listeners know that they must compensate for incomplete input or partial understanding" (Rost, 2002, p. 236).

Although there is great diversity in the definition of listening strategy, many researchers agree that there are twin criteria for listening strategy: goal-directedness and consciousness (Goh, 2002). The consciousness of listening strategy means that listening strategy should be an intentional and conscious behavior, instead of sub-conscious behavior; while goal-directedness means strategy use is a purposeful process, and the strategy would only be used when it is necessitated by comprehension goals (Goh, 2002).

The adoption of these criteria for listening strategy is very important since it will determine if a mental or cognitive process will be regarded as a strategy or not. For instance, the "problem identification" (identifying some problems that occur during listening, such as failure to understand) strategy has been listed as a listening strategy in some previous research (e.g., Vandergrift, 1997; Chou, 2015; and Ngo, 2015). However, if the participant claims that this strategy is not an intentional or conscious behavior but a naturally occurring cognitive process in his mind that does not serve any intentional purpose, then this strategy should not be regarded as "strategy" in the first place according to the twin criteria for listening strategy of Goh (2002).

However, this kind of practice has been ignored by some previous research, and they tend to list every mental process reported by listeners as "listening strategies" in their studies no matter if these "strategies" are conscious or subconscious. In this regard, Elley and Bialystok (1990) already assert that there should be a distinction between strategic and nonstrategic language use when identifying a strategy. The "process" generally refers to the mental steps taken to carry out a cognitive activity, which can be completely unconscious, while the claim for "strategy" requires more (Elley & Bialystok, 1990).

After introducing the definition of listening strategy, a literature review on listening strategy will be followed. However, previous research has recognized that the Western study of listening strategies is based on language learning strategy research and regards language learning strategies as its foundation (Li, 2010; Nix, 2016; Bao, 2017; Kassem, 2015). Therefore, this study will review the research on the language learning strategy first before it delves into the listening strategy in order to give a clearer view on the involvement of listening strategy research in the past fifty years.

IV. Second and Foreign Language Learning Strategy

Since the 1970s, some studies (e.g., Rubin, 1975) have started to examine the language learning strategy of different groups of second language learners (Zhang, etc., 2019). This earlier research of learning strategies has many similarities, but there is no consensus reached (Shi, 2017). But, since the publication of research by O'Malley, etc., (1985, 1990) and Oxford (1990), the research on language learning strategy began to attract major attention in the field of second language acquisition (Shi, 2017). Among the earlier research on language learning strategy, the research of O'Malley, etc., (1985, 1990) and Oxford (1990) is among the best-known research in terms of language learning strategy research (Hong, 2017). The next section will introduce these studies respectively.

A. Language Learning Research of O'Malley et al. (1985, 1990)

O'Malley et al. (1985, 1990) did a series of research on language learning strategies, which identified dozens of language learning strategies and differentiated them into three categories: the meta-cognitive strategies (involving thinking about the learning process, planning for learning, monitoring the learning task, and evaluating how well one has learned); the cognitive strategy (the strategies that manipulate information directly), and social-affective strategy (involving interacting with another person to assist learning or using affective control to assist a learning task (see Table 1). The O'Malley et al.'s (1989, 1990) research was very prominent in the 1980s and their tripartite taxonomy (meta-cognitive; cognitive and social-affective strategy) on language learning strategies is used extensively by later research in this regard (Kassem, 2016).

Table 1
The Learning Strategies and Taxonomy of Learning Strategies Reported in O'Malley Etc. (1985, 1990)

Taxonomy of strategies	Definition of different Taxonomy	Examples of Specific Strategies
Meta-cognitive strategy	Thinking about the learning process, planning for learning, monitoring the learning task, and evaluating how well one has learned.	Planning; directed attention; selective attention; self-management; self-monitoring; problem identification, self-evaluation
Cognitive strategies	Interacting with the material to be learned, manipulating the material mentally or physically, or applying a specific technique to a learning task	Repetition; rehearsal; resourcing; grouping; note-taking; substitution; contextualization; elaboration; summarization; translation; transfer
Social affective strategy	Interacting with another person to assist learning or using effective control to assist a learning task.	Question for clarification; self-talk; self-talk; self-reinforcement;

B. Language Learning Research of Oxford (1990)

Oxford (1990) also proposed a detailed classification of language learning strategies based on the synthesis of the previous work. She divided language learning strategies into direct strategies and indirect strategies. Direct strategies involve direct learning and require mental processing of the language (Oxford, 1990), which include "memory

strategies", "cognitive strategies", and "compensation strategies". Indirect strategies indirectly support learning but are essential to the learning process, which include "metacognitive strategies", "affective strategies", and "social strategies" (see Table 2). Oxford (1990)'s research on language learning strategy is also popular and widely cited by later research, and his research is also regarded as "the most comprehensive classification of learning strategies" (Ellis, 1994, p. 539).

TABLE 2
THE LEARNING STRATEGIES AND TAXONOMY OF LEARNING STRATEGIES REPORTED IN OXFORD (1990)'S RESEARCH

Taxonomy and its definition	Examples of Specific Strategies
Memory strategy -Strategies for storage and retrieval of new information	1, creating mental linkages 2, applying images and sounds
Cognitive strategy -Strategies for manipulating or transforming the target language by the learner	1, practicing 2, receiving and sending messages
Compensation strategy -strategies that help learners to overcome knowledge limitations	1, guessing intelligently 2, overcoming limitations
Metacognitive strategy - Strategies beyond, besides, or with the cognitive.	1, focusing on your learning 2, planning your learning 3, evaluating your learning
Affective strategy -Strategies involving emotions, attitudes, motivations, and values	1, lowering your anxiety 2, encouraging yourself 3, taking the emotional temperature
Social strategy -strategies that involve communication, and between people	1, Asking questions 2, Cooperating with others

V. PREVIOUS RESEARCH ON SECOND AND FOREIGN LANGUAGE LISTENING STRATEGY

Since the 1980s, numerous research has started to focus on the listening strategy use of different groups of listeners. In order to analyze previous research on listening strategy use in a more systematic approach, the present study has reviewed various databases, such as Web of Science, Scopus, and Google Scholar in a relatively thorough manner. As a result, 43 empirical research specifically involving the second and foreign language listening strategy are collected in the present study (Table 3), which date from 1985 to 2021. Among the 43 pieces of empirical research, 26 of them involved the language learning strategy research of O'Malley and Chamot (1990) to code the data qualitatively or adapt the questionnaire or inventory to quantitatively tap into the listening strategy use. 6 of them have involved the language learning strategy research of Oxford (1990) for data coding or questionnaire adaptation. 4 of the empirical research (e.g., Murphy, 1985; Chien & Heyst, 2014) do not specify the source of their research instruments. The present study will introduce Vandergrift's series of research, such as Vandergrift (1996, 1997, 2003) first since they are very influential and widely used in extensive research involving listening strategy use (Zhou, 2017). Then it will review the rest of the listening strategy research based on their relations with language learning strategy research due to the close relations between listening and language learning strategy research.

TABLE 3
DISTRIBUTION OF 43 EMPIRICAL RESEARCH INVOLVING LISTENING STRATEGY COLLECTED IN PRESENT STUDY

Relations with language learning strategy research	Number of Research (43 total)	Specific research
Involving language learning strategy of O'Malley and Chamot (1990)	26	Bacon (1992b); Bacon (1992a); Young (1997); Goh (1998); Santos (2008); Goh (2002); Mareschal (2002); Vandergrift (1998); Graham et al. (2008); Blanco and Guisado (2012); Bidabadi and Yamat (2012); Kazemi and Kiamarsi (2017); Chen et al., (2013); Vogely (1995); Liu Hsuen-jui (2008); Li Xiangdong (2010); Bidabadi and Yamat (2011); Kassem (2015); Ngo (2015); Chou (2015); Zhao Guoxia and Sang zilin (2016); Lau (2017); Vandergrift (1996, 1997, 2003); Vandergrift (2006).
Involving language learning strategy of Oxford (1990)	6	Teng (1998); Kao (2006); Shang (2008); Li Yichun (2009); Wang Yu (2002); Moriera (1995)
Research does not specify the source for data coding or questionnaire construction (adaption)	4	Murphy (1985); Chien and Heyst (2014); Bao Xiaoli (2017); Lin and Huang (2021)
Research independent from language learning strategy research	7	O'Malley etc., (1989); Rukthong (2021); Matsumura (2002); Fujita (2012); Nix (2016); Soruc etc., (2018); Wakamoto and Rose (2021)

A. Listening Strategy Research of Vandergrift (1996, 1997, 2003)

Vandergrift and his colleagues have carried out a series of research on the listening strategy of different second or foreign-language listeners. Some of these studies are very influential for current listening strategy research and are widely cited by extensive research (Zhou, 2017), such as the research of Vandergrift (1996), Vandergrift (1997), and Vandergrift (2003).

Vandergrift (1996) and Vandergrift (1997) are actually the first and final phases of one study. Vandergrift (1996) used an interview method to investigate the strategy used by French high school students inside and outside classroom

listening activities. In this study, the strategy framework of O'Malley and Chamot (1990) (which is the research of second language learning strategy) served as a guide for coding the listening comprehension strategies reported in this study. Then, Vandergrift (1997) uses a think-aloud method to investigate high school students listening strategy use, in which the students listen to listening material first and then report the mental process immediately after. Then the think-aloud protocol was coded also "using a predefined taxonomy of listening comprehension strategies identified, validated, and refined by O'Malley and Chamot (1990) and Vandergrift (1996)" (Vandergrift, 1997, p. 391). Finally, these two studies identified 4 meta-cognitive strategies, 8 cognitive strategies, and 1 socio-affective strategy in total (see Table 4).

While Vandergrift's (2003) study has specifically investigated these differences of strategy use between skilled and unskilled second language listeners. The data was also coded using a predefined taxonomy based on Vandergrift (1996, 1997). Therefore, similar strategies as that in Vandergrift (1996, 1997) are found in this study, such as the strategy of "advanced organization" "directed attention" "selective attention" "problem identification" "imagery" "monitoring" "inferencing" "summarization", and so on.

TABLE 4
LISTENING COMPREHENSION STRATEGIES INVESTIGATED BY VANDERGRIFT (1996, 1997)

Taxonomy of strategy	Strategy	Examples of specific strategies
Metacognitive strategies	1, Planning	Advance organization
		Self-management
		Directed attention
		Selective attention
	2, Monitoring	Comprehension monitoring
		Double-check monitoring
	3, Evaluation	Checking the outcomes of one's listening comprehension for completeness and accuracy.
	4, Problem identification	
Cognitive strategies	1, Inferencing	Linguistic inferencing
		Voice inferencing
		Extra-linguistic inferencing
		Between-parts inferencing
	2, Elaboration	Personal elaboration
		World elaboration
		Academic elaboration
		Questioning elaboration
		Creative elaboration
	3, Deduction/ Induction	
	4, Summarizing	Making a mental or written summary of language and information presented in a listening task
	5, Translation	Rendering ideas from one language to another in a relatively verbatim manner.
	6, Transfer	Using knowledge of one language to facilitate listening in another.
	7, Imagery	Using mental or actual pictures or visuals to represent information.
	8, Repetition	Repeating a chunk of language
	9, Grouping	
Social-effective	1, Questioning for clarification	
	2, Lowering anxiety	Mental techniques that make one feel competent to perform a listening task.
	3, Self-encouragement	Positive self-talk and/or arranging rewards for oneself during a listening activity or upon its completion.

Vandergrift's (1996, 1997, 2003) studies are very important and influential in the listening strategy research area, which have became the most widely cited listening strategy framework later on (Zhou, 2017). A significant number of studies on listening strategy have either used this framework as a coding scheme for the qualitative analysis in their studies or adapted this study into questionnaires or inventories to investigate the listening strategy use quantitatively. Besides, the tripartite taxonomy (meta-cognitive, cognitive, and social-affective) used in these studies to classify the listening strategy, which is based on the taxonomy of O'Malley and Chamot (1990) (research on language learning strategy), is also extensively used by later research (Zhou, 2017; Kassem, 2015). However, it could be noted that, although Vandergrift (1996, 1997, 2003) was specifically conducted for listening strategy research, it actually uses a predefined language learning strategy framework to code and analyze the data being collected. According to Matsumura (2002), although this practice is thought-provoking to some extent, the existing framework of language learning strategies would not be sufficient to analyze the listening strategy used when the listeners are facing a particular real-time listening task since the language learning strategy framework is not designed to investigate the cognitive processes the listeners go through when they are facing a real-time listening task (Matsumura, 2002). While, due to the

influence of Vandergrift (1996, 1997, 2003), this may pose some influence on listening strategy research later on, which will be further illustrated in the next part.

Except for the research of Vandergrift (1996, 1997, 2003), the reset 39 research on listening strategy use collected in the present study has adopted either qualitative method (e.g., retrospective verbalization or think-aloud method) or quantitative method (e.g., questionnaire or inventory) to examine the strategy use of second or foreign language listeners (see Table 5, Table 6, Table 7 and Table 8), which would be detailed next based on their relations with language learning strategy.

B. Listening Strategy Research Involving O'Malley and Chamot (1990) or Vandergrift (1996, 199, 2003)

Among the rest 39 articles of research collected in the present study, 22 (55%) of them examined the listening strategy using qualitative or quantitative methods involving the research of O'Malley and Chamot (1990) or Vandergrift (1996, 1997, 2003). Among them, 12 articles used the qualitative method, such as an interview or retrospective verbalization method (in which the participants need to verbalize the mental process that occurred in their mind immediately after listening), to investigate the listening strategy use. While the coding scheme that these studies used to code the interview or verbalization data is based on O'Malley and Chamot (1990) (which is language learning strategy research) or Vandergrift (1996, 1997, 2003) (which are listening strategy research based on the language learning strategy research) (see Table 4). For example, Bacon (1992), Young (1997), Mareschal (2002), Vandergrift (2003), Graham et al. (2008), Goh (1998, 2002), and Ngo (2015) used the qualitative method to investigate the listening strategy use by different student groups, and the data was coded based on the coding-scheme of O'Malley and Chamot (1990) or Vandergrift (1996, 1997, 2003). As a result, the strategies obtained in these studies are typically classified into three types (meta-cognitive, cognitive, and social-affective strategies) just as the taxonomy of O'Malley and Chamot (1990), and the specific strategies reveal in these studies also bear some similarities with language learning strategies of O'Malley and Chamot (1990) (e.g., "asking for help", "summarization", "referencing", "elaboration", "transfer", "grouping" "monitoring" and so on) (see Table 5).

However, among these studies, there is some research that has fully realized the difference between the language learning strategy and the real-time listening strategy, and they intend to focus on real-time listening strategy for investigation specifically. For instance, Bidabadi and Yamat (2012) investigated the strategy used during real-time listening scenarios specifically, which revealed six major types of listening strategies for real-time listening (extensive listening): concentration/attention; visualization; note-taking; inferencing; communicating and skipping. It also specifically pinpointed that real-time listening could be different from the other listening learning scenario since it is restricted by time, so the listener may have to understand the meaning instead of comprehending every detail (Bidabadi & Yamat, 2012). This research may deserve credit to some extent since it is one of the few studies that has recognized the strategy difference between real-time listening scenarios and other listening scenarios and focused on the strategy of real-time listening (extensive listening) explicitly for investigation.

TABLE 5
PREVIOUS QUALITATIVE LISTENING STRATEGY RESEARCH BASED ON O'MALLEY AND CHAMOT (1990) OR VANDERGRIFT (1996, 1997, 2003)

Research (12)	Research method-qualitative	Source of the coding scheme	Strategies identified (examples)
Bacon (1992b)	interview and think-aloud	O'Malley and Chamot (1990)	Summarization, referencing, elaboration, transfer, visualization, concentration
Bacon (1992a)	interview and think-aloud	O'Malley and Chamot (1990)	
Young (1997)	think-aloud	O'Malley and Chamot (1990), Oxford (1990), Rost and Ross (1991), Vandergrift (1992)	Deduction; transfer; problem identification; planning; self-monitoring; elaboration; summarization; resourcing; grouping; clarifying; repetition;
Goh (1998)	retrospective verbalization	Rubin (1987); O'Malley and Chamot (1990); Oxford (1990)	Cognitive strategies: inferencing, elaboration, prediction; fixation, reconstruction Meta-cognitive strategies:
Santos (2008)	retrospective verbalization	O'Malley and Chamot (1990); Vandergrift (2003)	
Goh (2002)	verbalization and diary	O'Malley et al. (1989); Oxford (1990); Young (1997); Ross (1997)	
Mareschal (2002)	interview and think-aloud	O'Malley and Chamot (1990) and Vandergrift (1996, 1997)	Selective attention, self-management, monitoring, inferencing; elaboration, imagery; translation, and transfer.
Vandergrift (1998)	think-aloud	O'Malley and Chamot (1990)	
Graham etc., (2008)	retrospective verbalization	O'Malley and Chamot (1990); Vandergrift (2003)	Elaboration; monitoring; integration.
Blanco and Guisado (2012)	stimulated recall	Vandergrift (2008); O'Malley and Chamot (1990)	
Bidabadi and Yamat (2012)	interview and think-aloud	O'Malley and Chamot (1990); Vandergrift (1996, 1997).	
Kazemi and Kiamarsi (2017)	think-aloud	O'Malley and Chamot (1990)	

Besides, there are 10 additional articles of research that have used the questionnaire or inventory method to examine listening strategies in a quantitative manner, in which the questionnaire or inventory tends to be adapted from O'Malley and Chamot (1990) or Vandergrift (1996, 1997, 2003) (see Table 6). For instance, Bidabadi and Yamat (2011), Kassem (2015), Ngo (2015), etc., have used the questionnaire method to investigate the listening strategy use of student L2 listeners. The questionnaire or inventories in these studies are adapted mainly from Vandergrift (1996, 1997, 2003, 2006) or O'Malley and Chamot (1990). As a result, most of these studies mentioned above have revealed three types of strategies: the meta-cognitive strategy, the cognitive strategy, and the social-affective strategy just as that in the language learning strategy research of O'Malley and Chamot (1990). Besides, the scope and definition of specific strategies in the questionnaire also follow that in language learning strategy research. The next part will introduce previous research on listening strategy based on another language learning strategy research – Oxford (1990).

TABLE 6
PREVIOUS QUANTITATIVE LISTENING STRATEGY RESEARCH INVOLVING O'MALLEY AND CHAMOT (1990) OR VANDERGRIFT (1996, 1997, 2003)

Research (10)	Research method-quantitative	Source of questionnaire adapted from
Chen etc., (2013)		O'Malley etc., (1985); O'Malley, Chamot, and Kupper (1989); O'Malley and Chamot (1990); Vandergrift (1997).
Vogely (1995)	Questionnaire	Vandergrift (2006).
Liu (2008)	Questionnaire	Vandergrift (1997)
Li (2010)	Questionnaire	Vandergrift (1996, 1997)
Bidabadi and Yamat (2011)	Questionnaire	Vandergrift (1997, 2003)
Kassem (2015)	Questionnaire-	Vandergrift and Tafaghodtari (2010); Vandergrift etc., (2006); Harris (2007); Cheng (2002); Lee (1997); Teng (1996)
Ngo (2015)	Questionnaire and interview	Goh (2000); O'Malley and Chamot (1990); Phakiti (2008); Vandergrift (1997, 1999)
Chou (2015)	Questionnaire and interview	Cohen, Oxford, and Chi (2001); Vandergrift (1997, 1999)
Zhao and Sang (2016)	Questionnaire	O'Malley and Chamot (1990); Vandergrift (1997,1999)
Lau (2017)	Questionnaire	Berne (2004); Chang (2009); Goh (2002); Santos et al. (2008);

C. Listening Strategy Research Involving Oxford (1990)

Of the 39 remaining articles of research collected in the present study, there are 6 of them (15%) that also investigate the listening strategy use of different groups of second and foreign language listeners based on the research of Oxford (1990) (another language learning strategy research) or code the qualitative data using a coding-scheme based on Oxford (1990) (see Table 7). For instance, Teng (1998), Shang (2008), Kao (2006), and Liu (2009) have used a questionnaire adapted from Oxford (1990) to examine the listening strategy use. As a result, these studies tend to analyze listening strategies from six categories just as Oxford (1990): memory strategy, compensation strategy, cognitive strategy, meta-cognitive strategy, social strategy, and affective strategies, and the scope or definition of specific strategy revealed in these studies also follows that in Oxford (1990) (see Table 8).

It could be noted that these studies mentioned above are closely related to language learning strategy research, such as O'Malley and Chamot (1990) or Oxford (1990), in terms of the scope, definition, and taxonomy of listening strategy. While, there are some other studies that investigated listening strategies in an "independent" approach, which means research does not involve language learning strategy research in the present study. This strand of research will be introduced next.

TABLE 7
PREVIOUS LISTENING STRATEGY RESEARCH INVOLVING OXFORD (1990)

Research (6)	Research method	Source of questionnaire/coding scheme adapted from	Taxonomy for the Specific Strategies
Teng (1998)	Questionnaire- included 52 Likert-scaled items of six categories: memory, cognitive; meta-cognitive. Compensation, affective, social	Oxford (1990)	Memory strategy; compensation strategy, cognitive strategy, meta-cognitive strategy, social strategy, and affective strategy.
Kao (2006)	Questionnaire	Oxford (1990)	
Shang (2008)-	Questionnaire	Oxford (1990)	
Liu (2009)	Questionnaire	Oxford (1990); Kao (2006)	
Wang (2002)	Questionnaire + interview	Oxford (1990) and interview responses of participants in the study	
Moriera (1995)	Retrospective verbalization	Oxford (1990)	Memory; Cognitive Compensation; Metacognitive

D. Listening Strategy Research not Involving Language Learning Strategy Research

Among the remaining 39 pieces of empirical research on listening strategy use collected in the present study, there are only 7 of them (18%) that have coded or analyzed the data "independently" (which means there is no involvement

with language learning strategy research in the present study) (see Table 8). They tend to code or survey the listening strategy using research instruments that do not originate from language learning strategy but from some theoretical models for listening comprehension or other research on listening strategy research.

TABLE 8
PREVIOUS LISTENING STRATEGY RESEARCH BASED ON OTHER PERSPECTIVES

Research (7)	Research method	Source of coding scheme or questionnaire adaption
O'Malley etc., (1989)	Think-Aloud	Anderson's (1982) three phases model: perceptual processing, parsing, and utilization
Rukthong (2021)	Stimulated Recall	Field's (2013) mode for listening comprehension: top-down and bottom-up process and the strategic processing
Matsumura (2002)	Questionnaire	based on Otsuka etc.,(2000)
Fujita (2012)	Questionnaire	based on Matsumura (2002); McBride (2008); Vogely (l995)
Nix (2016)	Self-developed questionnaire	
Soruc et al. (2018)	Self-developed questionnaire	
Wakamoto and Rose (2021)	Self-developed questionnaire	

For example, O'Malley and Chamot (1989) have employed a think-loud approach to investigate the listening strategy used by high school students. The collected data were coded and independently analyzed without reference to a pre-defined coding scheme of language learning strategy. This study has confirmed a pair of listening strategies, such as "self-monitoring", "inferencing", "elaboration" and "self-questioning" under three phases (perception, parsing, and utilization) of listening comprehension, which is based on Anderson's (1983) three-stage model for information processing. Besides, Fujita (2012) explored the listening strategies used by Japanese university students using a questionnaire method, and this questionnaire is based on the listening strategy research, instead of language learning strategy research. So, the listening strategies identified in this research are classified into three categories "before", "after" and "during listening", which may realize that the listening strategy used "during listening" could be different from that "before listening" and "after listening" due to different time constraints.

Besides, among these studies, some have examined the strategy used by listeners under specific listening scenarios. For instance, Matsumura (2002) investigated the listening strategy used when listeners face a particular real-time (extensive listening task in the present study) listening task, instead of the listening learning task. The result of this study has identified four types of listening strategies: "the top-down strategy", the "bottom-up strategy", the "strategy for lengthy discourse" and the "strategy for salient features as cues". This research may deserve credit since it has asserted that the strategy used between the real-time listening task and other listening scenarios could be different, and it also highlighted that the language learning framework is not sufficient to support the listening strategy used during real-time listening scenario (Matsumura, 2002) due to different time and cognitive limits on these tasks.

In addition, some research of this kind develops and validates their own questionnaire for listening strategy use which is also independent of language learning strategy (related) research. So, these questionnaires may be unique compared with other questionnaires that are based on the language learning strategy. For instance, Nix (2016) has constructed a two-dimensional questionnaire, which classified listening strategy into two dimensions: the top-down and bottom-up strategies instead of the traditional tripartite taxonomy or six-category language learning strategy. While, Wakamoto (2021) designed a questionnaire, which has the intent to separate the "cognitive listening strategy" (a strategy involving the cognitive process during listening) and the "listening practicing strategy" (a strategy used for listening practicing), which may take into account the differences between listening practicing and real-time listening (extensive listening in the present study). This kind of research tends to use different taxonomy (the bottom-up and top-down processing) that may be specifically suitable for listening strategy, and they also reveal some new listening strategies in this regard. However, this kind of research is relatively scarce in view of previous literature.

VI. CRITICS OF PREVIOUS LISTENING STRATEGY RESEARCH

Previous research also pinpointed some criticism of the extant listening strategy research, which will be introduced from three aspects: the criticism on the relations between language learning and listening strategy; the efficacy of specific listening strategy, and the taxonomy of listening strategy.

A. On the Relations Between Language Learning Strategy and Listening Strategy

Based on the aforementioned, current listening strategy research is based on language learning strategy research (Bao, 2017). Matsumura (2002) also stated that most of the listening strategy studies have drawn upon the findings of language learning strategies (e.g., O'Malley & Chamot, 1990; Oxford, l990) and have analyzed the listening strategies in the framework of the existing language learning strategy taxonomy.

However, some previous literature has mentioned that the strategy used during language learning scenarios (e.g., when the listener is practicing listening by listening repeatedly or engaging in listening dictation) in which the learner attempts to bring long-term competence into being is different from the strategy in the real-time communication

scenario (e.g., when the listener needa to listen to a classroom lecture in a foreign language in which the listener can only listening for once without the chance of repeated listening) which is used to solve a momentary communication difficulty or improve the real-time communication efficacy (Selinker,1972). As Tarone (1981) notes, learning strategies are attempts to develop linguistic and sociolinguistic competence in the target language. The motivation for the use of the strategy is the desire to learn the target language rather than the desire to communicate effectively. While strategies for real-time listening scenarios (the listener can usually listen for once without the chance of pause or rewinding the listening input) may involve an adaptation to the failure during listening in order to improve the real-time communication (listening) efficacy. For example, a listener may need to use strategies to figure out every single word in the listening input in order to acquire a language (usually occurs in listening learning scenario), but they will not be encouraged to use that strategy (focusing on every single word) during real-time listening due to the time and cognitive limits since the listener can only listen once without pausing in the middle. Field (1998) also mentioned that the current classification system does not distinguish between listening strategies that are used for extracting meaning in real-time communication scenarios (real-time listening scenario in the present study) and those learning strategies which are used for the purposes of acquiring or learning language (listening practice scenario). Field (1998) has already warned against mixing these two by stating that one type of strategy can be applied without the other and combining these two types of strategy may create conflicting task demands.

Besides, Matsumura (2002) proposed that the existing inventory of language learning strategies, such as the Oxford (1990), would not be sufficient to analyze the strategies the listeners engage in when executing a particular real-time listening task since it does not offer detailed task-related real-time processing on listening input. This is not surprising since it was not designed to investigate the cognitive processes the listeners go through to construct meaning out of the listening input. Thus, it would be worth conducting studies designed to deal with cognitive listening strategies for real-time listening tasks (Matsumura, 2002).

Therefore, based on what has been mentioned above, there is likely a great difference between the listening strategy used for real-time listening scenario and the language learning scenario. While most of the extant research tends to analyze the listening strategy in the framework of the existing language learning strategy (Matsumura, 2002) and overlook the possible conflicting nature between the listening strategy for real-time listening and listening learning scenarios. So, future research may need to bridge the gap in this regard.

B. On the Efficacy of Some Specific Listening Strategies

Besides, previous research also casts some doubt on the efficacy of some specific strategies revealed before. For instance, as for some specific cognitive strategies, Li (2010) stated that the "transfer" strategy is negatively related to listening performance. Wang (2002) also confirmed that the "transfer" strategy is reversely related to listening proficiency since transferring the language into the mother tongue will slow down the comprehension process. Besides, for the "note-taking" strategy, although it is reported as a strategy employed by listeners in order to remember the information they heard, findings of some research revealed that students seemed to use the note-taking strategy ineffectively since they did not know how to take notes efficiently and then it hindered comprehension by preventing the listeners from catching up with the incoming information (Ngo, 2015). Goh (2002) revealed that "elaboration" tactics, though generally helpful, were counter-productive when the wrong kind of knowledge was drawn upon. While, as for the "repetition", it is also recognized by some research as a more surface-processing strategy that is typically used by novice listeners (Vandergrift, 1996; Bacon,1992).

Besides, the efficacy of some other specific meta-cognitive strategies has also received some criticism. For instance, Pressley et al. (1992) found that even with adult first language users, "comprehension monitoring" was often lacking and the participants in his study did not always monitor their comprehension. In line with these findings, Ngo (2015) revealed that only two students in his study used the "monitoring" strategy (checking, verifying, or correcting one's understanding), and most of the listeners did not check and verify information when they listened since they did not have enough time. Some other research has even criticized the definition of a "monitoring" strategy. For instance, Santos, etc., (2008) stated that there are some “problems” with the definition of “comprehension monitoring” strategy since it seems to subsume both the comprehension that has or has not taken place and it seems like a cluster of strategies, instead of one strategy. While Goh (2002) also mentioned that the terms 'self-monitoring' and 'self-evaluation' themselves were imprecise and unable to capture the strategic differences.

Based on what has been mentioned above, one of the reasons for these disputes could be that the language proficiency level of these participants involved in previous research are varied and the listening strategy is usually varied based on different groups of listeners (Vandergrift, 2003), so both the effective or ineffective strategies previously reported by research and some disputed comments on the efficacy of some listening strategies are raised. Another reason for this could be that previous research tends to examine the listening strategy from the perspective of the language learning scenario (in which the listener has plenty of time to practice listening repeatedly), not the real-time listening scenario (in which the listener is highly constrained by time and cognitive resources during listening). While the strategy used in these two kinds of listening scenarios might differ. For instance, the strategy of "repetition" could be an effective strategy for listening practice while it would be counter-productive for real-time listening situations due to its time-limits. Therefore, future studies may need to avoid this confusion by specifically clarifying the listener’s listening proficiency as well as the listening scenario.

C. On the Taxonomy of Listening Strategy

Based on what has been mentioned above, it could be noted that most of the listening strategy research tends to use the taxonomy deriving from the language learning strategy research of Oxford (1990) or O'Malley and Chamot's (1990) (Nix, 2016; Kassem, 2015), and they tend to classify the listening strategies into cognitive, meta-cognitive and social-affective. However, Nix (2016) pinpointed that the tripartite taxonomy is insufficient to generalize listeners' tendencies for strategy use and relations with language proficiency. The reason may rely on the fact that the most distinctive difference between effective and ineffective listeners is the tendency on top-down or bottom-up processing (Vandergrift, 1998), and the tripartite taxonomy has classified the strategy of both groups (bottom-up and top-down) into three categories (metacognitive, cognitive and affective) (Nix, 2016). Besides, it has been generally recognized that listening comprehension is an interactive process involving both bottom-up and top-down processes (Graham & Macaro, 2008). While the tripartite taxonomy on listening strategy has disconnected itself from this interactive process of listening comprehension. So, the current listening strategy taxonomy fails to reveal their relationships with listening performance as well as the interactive processing of listening comprehension cognitively (Nix, 2016). Therefore, in the future, a novel taxonomy that could better reflect the listening comprehension process and the interaction between top-down and bottom-up processing should be constructed.

VII. Conclusion

This article has reviewed the involvement of listening strategy research over the past fifty years. Based on what has been mentioned above, we notice that there are still some existing research gaps. For instance, current listening strategy research is based on the (listening) learning strategy research (Bao, 2017), and most of the extant research tends to regard the general listening learning strategy as the listening strategy (Bao, 2017; Kassem, 2015). However, the real-time listening activity (when the listener only has one chance to listen without the chance to practice listening repeatedly) could be different from the listening learning process (when the listening is usually repeated for language learning purposes) (Bidabadi & Yamat, 2012), So, the strategy used in these two scenarios could also be distinctive to some extent. While, to a review of previous research, research focusing on the strategy use of real-time listening scenarios is very rare (Nix, 2016). Against that background, the efficacy of some specific listening strategies has been questioned since the listening scenario suitable for these listening strategies is not clarified. Furthermore, the existing tripartite taxonomy for listening strategy may be insufficient to generalize listeners' tendencies for strategy use and to reflect the interactive processing of listening comprehension. So, a novel taxonomy constructed specifically for listening comprehension, instead of the language learning process, may be needed in the future. Bridging these research gaps may further broaden the academic research involving listening strategy research in the future.

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