

AN OVERVIEW OF RESEARCH METHODS USED TO DETERMINE THE EFFICIENCY OF LANGUAGE LEARNING STRATEGIES

Ivana Marinković¹, MA; Dragana Pešić², PhD

¹College of Applied Sciences Užice, Užice, SERBIA, <u>ivana.marinkovic@vpts.edu.rs</u>
²Faculty of Hotel Management and Tourism, Vrnjačka Banja, SERBIA, <u>dragana.nedeljkovic@kg.ac.rs</u>

Abstract: The aim of the paper is to provide an overview of research methods used to determine the efficiency of different language learning strategies. The tendency to identify differences between successful and less successful foreign language learners has resulted in numerous factors affecting the language learning outcomes, with language learning strategies being the most prominent one. Numerous linguists have engaged in the research on their efficiency, using different methodology, most often questionnaires. However, the results they have obtained have indicated that questionnaires, as a quantitative data collection method, should be used in combination with other, qualitative methods. Therefore, both quantitative and qualitative research methods are presented in this paper, illustrated with specific examples in order to justify the call for a mixed-method approach to this field of applied linguistics.

Keywords: language learning strategies, foreign language proficiency, qualitative research methods, quantitative research methods, mixed-method approach

1. INTRODUCTION

The attempts to find out why some learners are unsuccessful in foreign language acquisition, as well as to identify the characteristics of good language learners so that they can be generalised and transferred to the less successful ones, have resulted in abundant literature on language learning strategies since the 1970s. The pioneers of the idea of language learning strategies were Rubin and Stern who were also the first to study the ways learners acquire a foreign language and therefore moved the emphasis from the teacher and teaching to the learner and learning process itself [1], [2].

However, the growing interest in language learning strategies has often been associated with the work of Rebecca Oxford, who designed one of the most frequently used data collection instruments in the field of language learning strategies, and developed the taxonomy which has laid the foundations for most of subsequent studies [3].

The fact that language learning strategies are one of very few factors which contribute to the successful foreign language acquisition, but can be learnt and therefore directly influenced, has resulted in profound research studies in different countries and different language learning contexts. It has been proven that the awareness of language learning strategies and their efficient use facilitate more successful foreign language acquisition as they help students learn how to learn and take advantage of all learning opportunities provided in the foreign language classroom, but also prepare them for the independent language acquisition outside the classroom. This boosts students' motivation to learn; they take responsibility for their own success, and become autonomous language learners.

The above-mentioned conclusions have been have been based on the data collected using different research methods. Observation was the oldest one in this field, but questionnaires have been most frequently used, especially the *Strategy Inventory for Language Learning (SILL)*, designed in 1990 by Rebecca Oxford, with an aim to standardise data collection in order to make them comparable.

Research results have revealed numerous factors affecting the choice of language learning strategies and making the generalisation of the results obtained using only questionnaires impossible. Namely, the results obtained using the same questionnaire have often been quite different, sometimes even opposite, causing confusion and indicating the necessity of combining questionnaires with some other, qualitative research methods [4]. The greatest number of studies employs semi-structured interviews as an additional method, and at the same time the fastest way of acquiring the wanted information.

Apart from the above-mentioned methods, diaries, notes and think-aloud protocols have also been used, whereas due to the development of information technology, a new, computer-assisted method to track listening strategies in a foreign language has recently appeared [5].



2. LITERATURE OVERVIEW

Much of the research on foreign language acquisition has been devoted to language learning strategies, i.e. to their identification and relationship with other factors such as proficiency levels, motivation, gender, age, specific learning context or task. Almost equally important is the research on the effects of the explicit strategy instruction on the success in foreign language acquisition [6].

It took linguists a long time to come up with a proper definition of the *language learning strategies* concept. Rubin defined them quite generally, as techniques learners use to acquire knowledge [1], which has resulted in different interpretations of the concept, causing confusion and complicating further research. Much later, owing to the already abundant literature, a more precise definition appeared - activities that students choose intentionally or by chance for the purpose of learning a language or managing their learning process [7].

It has not been easy to conduct research on language learning strategies as they mostly represent unobservable, mental processes. Therefore, self-report methods are considered to be the only way of identifying the strategies learners use. Due to its subjective character, self-report has numerous disadvantages, as students can give insincere answers or say what they think the researcher expects to hear. Nevertheless, despite all the disadvantages, such strategy research provides certain insight into metacognitive, cognitive, social and affective processes underlying foreign language acquisition, but which cannot otherwise be observed [8].

Oxford and Crookall in [9] provided an overview of numerous studies on language learning strategies, and classified them into five groups according to the research methods used (strategy lists, interview and think-aloud protocols, students' notes, diaries and questionnaires).

The theoretical framework of the efficiency of language learning strategies was also reviewed by Ernesto Macaro [10]. He claimed that, in spite of being imperfect, language learning strategy research methodology had a high level of validity and reliability, as well as that questionnaires could provide a clear picture of the strategies used, whereas students' verbal reports could efficiently explain the use of certain strategies when doing particular tasks or developing specific skills.

Language learning strategy research methodology has also been in the focus of numerous criticisms. Some were grounded on the doubt that students' statements could serve as a mirror of their internal, mental processes [11]. Some targeted comprehensive and general questionnaires about language learning strategies, claiming that they could not be equally efficient in different social and cultural contexts [12]. Rebecca Oxford's questionnaire has caused severe criticisms and endeavours to prove that its results are psychometrically unjustifiable as it is based on the quantity rather than quality of used strategies [13]. However, due to its clear and simple structure, comprehensibility and possibility to adjust it to different contexts, it has resisted the criticisms and remained the most frequently used language learning strategy research instrument [14].

3. RESEARCH METHODS USED TO DETERMINE THE EFFICIENCY OF FOREIGN LANGUAGE LEARNING STRATEGIES

Most strategies used by foreign language learners cannot be directly observed, and the only way to find out if learners use them when doing different tasks are learners' own reports. Some of the strategies can be identified by observing learners' behavior (taking notes, cooperation with peers, etc.), but observation as a research method has proven to be inefficient as far as language learning strategies and their efficiency are concerned [15], [16]. Therefore, most of the research in this field has been carried out using self-report methods, which include: questionnaires, interviews, diaries and students' notes, as well as think-aloud protocols. Each of the methods has both advantages and disadvantages, and the latter can be overcome to a certain extent by combining two or more different methods, i.e. by using the mixed-method approach.

The development of technology has yielded a new, computer-assisted method, which has been used to identify metacognitive processes taking place while listening to materials in a foreign language and determine their contribution to the development of this skill.

3.1 Observation

The oldest research on foreign language learning strategies was carried out using observation as a research method. Based on observation, some strategies for successful writing in a foreign language, as well as some listening comprehension and vocabulary acquisition strategies were defined [9]. Based on observation and intuition, Joan Rubin in [1] made a list of characteristics of good language learners, defined the strategies that facilitate foreign language acquisition and tried to teach them to less successful language learners. Besides observation, Rubin used learners' statements and diaries to gain necessary information, and concluded that observation, despite an enormous number of hours that she had devoted to it, had proven to be the least efficient research method in the field of language learning strategies [16].

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The reason underlying such a conclusion is a small number of strategies that can be directly observed (cooperation with peers, gesticulation aimed at conveying a message, asking clarifying questions, etc.). The conclusion on the use of some strategies can be made based on the intuition, but most language learning strategies represent invisible, mental processes and not such forms of behavior that can be directly observed. Therefore, observation as a strategy research method can provide unreliable information. The researcher might not notice something that is taking place in the classroom, learners' behavior might be affected by their current mood, whereas the fact that the teaching process commonly focuses on learning outcomes rather than on the learning process itself makes observation even less efficient.

3.2 Questionnaires

Questionnaires are most frequently used to study learners' behavior that cannot be directly observed. If they consist of multiple-choice questions, they provide quantitative or numerical data, and if they comprise open-ended questions, they are used as a qualitative research method. The disadvantages of this research method, when it comes to language learning strategies, are related to the fact that students often complete questionnaires retrospectively, so they often forget the strategies they used to use. Sometimes they are intentionally insincere, or they may misunderstand the description of a strategy.

Nevertheless, despite all the disadvantages, questionnaires with a five-point Likert scale are the most efficient method and the most frequently used one to identify and determine the efficiency of language learning strategies as they ensure fast and easy collection of information on a great number of strategies from a great number of respondents at the same time, whereas the collected information is easy to analyse. Their shortcomings are usually overcome by combining them with interviews, or by adding some biographical, open-ended questions that can clarify confusing data.

So far, in most of the studies on language learning strategies and their efficiency in foreign language acquisition, the questionnaire developed by Rebecca Oxford in 1990, known as the *Strategy Inventory for Language Learning*, has been used.

There are two versions of this questionnaire, and the one which consists of 50 items grouped into 6 categories is used for the research on the strategies for learning a foreign language. Those six categories are as follows:

- 1. memory strategies used at the beginning levels of foreign language learning because they facilitate memorising, retaining and recollecting language materials;
- 2. cognitive strategies the learner directly manipulates language materials by thinking about it, taking notes, summarising, practicing, reorganising information in order to enhance learning. They facilitate the comprehension and transmission of messages;
- 3. compensation strategies help learners compensate for the insufficient knowledge on foreign languages (deriving the meaning of unknown words from the context, using synonyms or descriptions when they lack the proper word, using gesticulation);
- 4. metacognitive strategies help learners manage their own learning process (planning, collecting and organising materials, organising learning space, error detection, self-assessment);
- 5. affective strategies aimed at controlling the level of foreign language anxiety (deep breathing, self-encouragement, self-rewarding). They are especially useful at the beginning levels of foreign language learning, whereas with increasing knowledge, their usage declines;
- 6. social strategies gained importance when Rebecca Oxford developed the taxonomy of social strategies, thus separating them from affective ones. Namely, she grouped them into three categories: asking questions, cooperation with peers and empathy with peers [3].

The SILL questionnaire has been translated in a lot of languages and adapted both to different foreign language learning contexts and to different strategies being in the focus of a study, as well as to different research aims (determining their relationship with learning styles, gender, age, proficiency levels).

Wishing to adapt the SILL questionnaire to her students, as well as to overcome the problem of their classification into categories, Carol Griffits designed a much shorter questionnaire, known as *ELLSI* (*English Language Learning Strategy Inventory*), taking into consideration the opinions of both her students and colleagues. The questionnaire has undergone the validation process and is considered highly reliable [17].

Based on the Rebecca Oxford's strategy taxonomy, questionnaires examining vocabulary learning strategies have been developed [18, 19], as well as those examining reading comprehension strategies [20] and numerous other questionnaires.

One of the most often used questionnaires for the research on metacognitive processes taking place during listening comprehension activities and the strategies used is the *Metacognitive Awareness Listening Questionnaire* (MALQ), which has proven to be equally efficient as a means of raising learners' awareness of the listening process itself, and as a scientific research method [21].

Willing's questionnaire is another well-conceived instrument intended for the research on language learning strategies used by adults in the language classroom and outside it, tested and administered in different contexts [22].

3.3 Interview



Interview as a research method used to study language learning strategies has numerous advantages over other methods. The researcher gets answers immediately, can clarify any uncertainties as soon as they appear by asking additional questions, the personal contact with the researcher creates a friendly atmosphere, which makes learners feel relaxed, and it is highly efficient as the researcher can collect a huge amount of data in a short time. On the other hand, the element of subjectivity and partiality makes it desirable to combine interviews with other methods.

Retrospective interviews expect the learner to recollect a specific task and the strategies they used to do it, whereas, due to forgetting, they might provide unreliable information. An efficient way to solve this problem is to record learners as they do a task, and when they finish, they answer questions about their thoughts during different stages of doing the task, while watching the recording.

The greatest number of studies on the efficiency of language learning strategies used a questionnaire combined with a semi-structured interview. Namely, once the questionnaires are completed, a group of students are selected and asked questions about their responses on the questionnaire. The questions are prepared before the interview, but they are formulated as conversation topics, thus allowing students to explain their attitudes and feelings. Unlike structured interviews, where the interviewer is absolutely neutral and must neither change the formulation nor the order of prepared questions, with semi-structured interviewes, the interviewer is free to adapt questions to different interviewes as long as their meaning is maintained, with the aim of finding out necessary details or clarifications. Thus they take maximum advantage of all opportunities occurring during the conversation in a spontaneous manner, and create a personal relationship with interviewees, gaining their trust, which reduces tension and therefore they give sincere answers. The success of this method is to a great extent dependent upon the interviewer's skills to adapt questions to individual learners.

This type of interviews has helped numerous researchers clarify the findings obtained using the SILL questionnaire, which were quite different from or even opposite to the results of relevant studies in this field. In his research on the effects of language learning strategies on English students' proficiency in Japan, Fewell came to some surprising conclusions [23]. Namely, as their proficiency increased, the English students used language learning strategy less frequently. In order to clarify the confusing findings, a group of students were interviewed and it was found out that the research findings were influenced by the specific educational system in Japan. At the previous levels of their education, the students were encouraged to utilise rote learning in order to achieve good results in standardised tests. Rote learning was also the result of the transfer of learning strategies used to master the Japanese writing system, as well as a consequence of language teachers' insufficient knowledge on language learning strategies. The fact that more successful students use language learning strategies less frequently was explained by their dismissing rote learning as ineffective at early stages of language learning.

Numerous studies have appeared as results of combining observation and interview methods. Inspired by Stern's idea about characteristics of good learners of foreign languages, Naiman, Fohlich, Stern and Todesco used the interview method to further examine these characteristics [24]. The interview comprised a biographical part and a discussion about strategies that students would use in hypothetical language learning situations, and they defined six strategies which are crucial for successful foreign language learning.

By means of interviews, researchers have often found out that the initial hypotheses they grounded their research on were completely wrong. Based on the results obtained using this method, it has been concluded that successful foreign language learners use metacognitive strategies more frequently, which means that they are able to manage their own learning process [25].

In addition to semi-structured interviews, the structured ones have also been used in the research on language learning strategies. A structured interview is similar to a survey as it contains questions prepared in advance, most often closed-ended or multiple-choice ones. The questions cannot be changed, nor can their order be different; the interviewer is neutral and therefore cannot be a cause of errors during the data collection process. The obtained results are rather harmonious, and easy to quantify and analyse, but they can, by no means, reveal unique experiences of learners. The process of preparing questions itself is crucial because it is the formulation of a question that the relevance of the answer depends on.

Structured interviews were used by Vandergrift in his studies on listening comprehension strategies before he designed the *MALQ* questionnaire aimed at overcoming the shortcomings of other research methods used for the same purpose [26].

3.4 Diary

Diaries as a qualitative method used to study the efficiency of language learning strategies are learners' retrospective or introspective notes about their own learning process, achieved success or problems faced, as well as about their feelings and impressions. There are free-form diaries and those that follow precise instructions given by researchers, the latter being easier to analyse [27]. Keeping a diary is a long-term process and can easily become boring. Due to their insufficient linguistic knowledge, students are often unable to verbalise or explain linguistic processes precisely. They might be insincere, especially if they know that their diaries will be read by their teachers. Using this method, data is usually collected from a small number of learners; the data analysis and quantification are quite complicated as it is difficult to discover any patterns, which makes the generalisation of the obtained results impossible [28].



However, the very process of thinking and writing about language learning helps learners develop the metacognitive awareness of their way of learning and the strategies they use and therefore, by making necessary corrections, they can easily become more successful at foreign language learning [27].

The generalisation of results does not have to be and should not be the aim of studies carried out using diaries. They should be aimed at getting to know students better, at discovering their individual differences, the ways in which they experience the teaching process and teachers' activities, their needs, affective and other factors that might hinder the learning process but are not familiar to teachers nor can be discovered using other research methods. All these factors help foreign language teachers approach the learning process from learners' perspective and serve as a reminder that language instruction should be learner-centered [28].

The analysis of diaries kept by the students involved in a research on the impact of language learning strategy instruction on the level of proficiency in a foreign language led to the conclusion that foreign language classes should focus not only on the subject matter, but also on raising students' awareness of the language learning process [29]. This conclusion has served as the inspiration for plenty of studies in this field.

Diaries have also been used as a research method to study listening comprehension strategies [30]. The analysis of learners' dairy entries confirmed the hypothesis that learning styles are a relatively constant category unlike language learning strategies which, although learners choose them in compliance with their learning styles, are susceptible to changes with the increasing proficiency in foreign languages [31].

3.5 Think-aloud protocol

The think-aloud method is a self-report method in which learners verbalise their thoughts while completing a specific task, without any explanations, thus providing the researcher with an insight into invisible mental processes. As such, it takes a lot of time, requires recording learners or writing down their statements in detail, but it ensures data collection in a direct manner and without delay. Video recordings are quite efficient as they also provide insight into non-verbal factors that contribute to listening comprehension, such as pauses, changes in the tone of voice, gesticulation, eye movements.

The researcher asks no questions nor do they correct learners' mistakes during their thinking aloud in order not to disrupt their cognitive processes. The feedback is provided upon the completion of the activity.

This method has most often been used to study the efficiency of reading comprehension strategies [32].

As interviews and questionnaires, it also has some shortcomings because learners may have difficulty in verbalising their mental processes, or they might verbalise only part of their thoughts, whereas the researcher's presence itself can affect their thoughts, as well as their choice of strategies [33]. On the other hand, it stimulates the development of learners' metacognitive skills, i.e. helps them learn how to learn.

Hosenfeld was the first to use this research method to study language learning strategies and based her numerous studies on it, highlighting its advantages in identifying individual differences of language learners, gaining insight into their decision-making skills and the factors affecting them [34]. She came to the conclusion that successful language learners use completely different reading comprehension strategies than their less successful peers, that both young and older learners can successfully describe the strategies they use, as well as that those strategies are often different from what their teachers suppose.

Other linguists who used this method have also gained significant insight into the mental processes and language learning strategies that can hardly be gained using other methods. Anna Chamot and Pamela El-Dinary used this method to study reading and listening comprehension strategies used by primary school language learners and found out that they use plenty of strategies, but in different ways, which could not be discovered using questionnaires [33].

In their comprehensive studies, Chamot and O'Mailley, the authors of one of the most popular classification of language learning strategies, often used the think-aloud method. Owing to it, it has also been concluded that students who are equally successful in foreign language acquisition often use completely different strategies [35].

3.6 Note-taking method

The analysis of notes taken by language learners about the ways in which they complete specific tasks have been used only in several studies of language learning strategies [9].

Andrew Cohen and Edna Aphek used it in the research carried out with students of Hebrew in Israel, the aim of which was to find out how successful associations could be in learning vocabulary [36]. By analysing students' notes, they discovered numerous shortcomings of this method. Some notes were not clear enough, some students were not certain how to describe their mental processes, so they noted down simpler associations than those they had really used, or they even stated that they had not used associations at all, but it was obvious that they had. However, besides the mentioned shortcomings, the authors came to a quite useful conclusion – that mnemonic strategies, although they might slow down the thinking process, can be very useful and can make vocabulary acquisition and memorising easier, especially at beginning levels of learning a foreign language.

This method can be used as a good introduction to an interview, which makes it more efficient and increases the reliability of the obtained data.

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3.7 Computer-assisted method to track listening strategies

The accelerated technological development announces the emergence of new research methods in all scientific fields, and even in the field of language learning strategies. One such method has already been used to study listening comprehension strategies.

By recording the computer screens of students while they were listening to an MP3 recording in German, the movements of the mouse were monitored, and the analysis of the collected data provided insight into students' metacognitive processes and their contribution to successful listening in a completely objective manner, totally independent form students' verbal statements about the strategies they used. At the same time, the degree of students' self-regulation was discovered, i.e. students' ability to manage their listening process using the mouse (pausing, playing backwards and forwards), which makes the processing of received information easier [5].

A small number of studies have been carried out using this research method.

4. CONCLUSION

Strategies for learning a foreign language represent learners' internal, mental processes and therefore cannot be studied objectively. The only way to find out which strategies a language learner uses is to ask him/her about it. That is why self-report methods are most frequently used to study these strategies, although students are often insincere in their reports.

However, besides the shortcomings associated with each of the explained research methods used to study the efficiency of language learning strategies, their pedagogical implications are highly important. Each one helps language teachers get to know their students better, as well as find out the ways in which their students learn foreign languages, i.e. the strategies they use and how often they use them.

Taking into consideration the fact that qualitative and quantitative scientific research methods are complementary approaches, their combining, known as the *mixed method*, can definitely clarify confusing results, provide answers to the questions that cannot be answered using any of the methods on its own, and ensure making more reliable conclusions. Two methods that have been most frequently combined to study the efficiency of language learning strategies are questionnaires and semi-structured interviews.

Numerous criticisms of research methods used to study the efficiency of language learning strategies due to their shortcomings and unsuccessful generalisation of their results do not imply that they should not be used, but that research results should not be generalised beyond a specific learning context. This, together with the combination of qualitative and quantitative methods, would ensure highly reliable findings about a specific group of learners. Therefore, in compliance with obtained results, foreign language teachers would revise their teaching materials, design various activities aimed at introducing students to successful language learning strategies that they are unaware of; they would demonstrate how to use these strategies and provide guidance on how to select the most efficient ones for a specific task. In this way, students would learn how to learn and develop learning autonomy, which would inevitably boost their motivation. So, they would assume responsibility for their own success and achieve better results, and that is, in fact, the ultimate goal of the research on language learning strategies.

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