

MAGDALENA SMOLEŃ-WAWRZUSISZYN

John Paul II Catholic University of Lublin

ORCID – 0000-0002-7886-5894

SYLWIA NIEWCZAS

John Paul II Catholic University of Lublin

ORCID – 0000-0002-7349-5679

RETRIEVAL PRACTICE IN FOREIGN LANGUAGE PEDAGOGY TO SENIORS*

Introduction: At the beginning of the 21st century, older adults have become another group with special educational needs, not only because of their social and neuropsychological conditions, but also because of the growing number of people aged 60+. One of the fields that responds to those needs is foreign language geragogy.

Research Aim: The aim of the paper is to draw attention to *retrieval practice* (RP) strategy as an applicable method in teaching languages to older adults for maintaining their cognitive skills and to suggest some concrete solutions of the RP implementation in the language education.

Method: This study is of a theoretical-conceptual nature. The literature review was conducted in the fields of neurological and psychological characteristics of third-agers, as well as with reference to RP experiences in teaching children and teenagers. Own two-stages research focused on lecturers' perspective explored through online surveys and a group interview.

Results: The RP strategy is an educational need reported by late L2 learners and their teachers. Due to its proven neurocognitive support of people aged 60+, the strategy is a valuable method of working with older adults. Results have allowed for proposing an applicable aspect. A few RP language practice models were offered as a tool facilitating learning, which is a novelty as for many years it was behind the interests of researchers and practitioners working with third-agers.

Conclusion: The RP strategy is a technique worthy of attention because of the goals accompanying language learning in older age, such as cognitive development, supporting memory

* Suggested citation: Smoleń-Wawrzusiszyn, M., Niewczas, S. (2024). *Retrieval Practice* in Foreign Language Pedagogy. *Lubelski Rocznik Pedagogiczny*, 43(1), 143–159. <http://dx.doi.org/10.17951/lrp.2024.43.1.143-159>

processes and maintaining social contacts. The use of RP strategies in language exercises allows to diversify the process of language education in a way that is adequate to the late L2 learners' potential. All of these factors are undoubtedly crucial in the context of seniors' well-being. This allows us to conclude that the benefits of language learning can have a holistic dimension for older adults, as long as the learning is carried out using appropriate methods.

Keywords: older adults, third-agers' education, foreign language geragogy, *retrieval practice* (RP) strategy

INTRODUCTION

Traditionally and for many years, both in Poland and other European countries, older adults were not supposed to learn new concepts. However, in the fast-paced 21st century, lifelong learning has become a necessary means of adjusting to the continuous changes (Mawas and Muntean, 2018). What is more, constant learning and broadening knowledge is now a must for people of all ages and especially foreign language skills are crucial in the world being a global village.

The second relevant fact for the study is that "the demographic ageing of the population of Europe and some highly developed countries is a global process" (Betlej and Leśniak-Moczuk, 2017). As estimated by Eurostat, Poland is expected to be one of the countries where the change will be the fastest – the median age of the population is foreseen to escalate by more than 8.0 for Poland, Slovakia and Malta (the average median age for Europe is projected to increase by 4.5 years) (Eurostat, 2020, p. 21). It means that in 2050, the number of Polish older adults will have increased by nearly 40% among people aged 60+, which is already an urgent challenge for teaching aimed at late adulthood education, and requires interdisciplinary research and solutions.

According to sociologists, the 21st century will be the period of emancipation of Polish third-agers, and nowadays different seniors clubs are becoming more popular among older adults in Poland (Piechota, 2020).¹ Statistical survey carried out by the Central Statistical Office (GUS) has shown that language courses turned out to be the most popular among courses aiming at the development of various skills – almost 3,300 seniors chose them in 2021 (GUS, 2022). This is a large number, and in addition, it includes only seniors attending courses organized by various institutions (mainly Universities of the Third Age). However, the authors' own experience shows that older people also take up language learning through individual courses.

The changes in seniors' attitudes and behavior are also reflected in the growing interest of the researchers in the area of third-age foreign language learning. One of the fields that responds to those needs is foreign language geragogy. Formosa

¹ See also: (Gov.pl, 2019).

(2023) recently attempted to condense five decades of third-age foreign language research and concluded that the study of older persons' learning has been progressing since the 1980s and the research has mostly examined the beneficial effects of educational programs on the overall well-being and quality of life of third-agers. Additionally, it has shed light on the political aspects related to social class, gender, ethnicity, age discrimination, and Western biases. Among the accomplishments of learning programs for older adults, cognitive enhancement, emotional and psychological assistance, social connections and inclusion, and empowerment should be mentioned. The field also tackles various current challenges, including the lack of recognition of seniors' learning in public policy, the disregard for third-agers in higher education, the age-related digital divide that hinders older adults from engaging in informal learning, and the lack of discussion on the quality of instruction for older individuals.

When it comes to Polish researchers, Grotek and Kiliańska-Przybyło (2012, 2014), Jaroszewska (2011, 2013), Kic-Drgas (2013), Klimczak-Pawlak and Kosakowska-Pisarek (2018), and Słowik-Krogulec (2019, 2020) have all undertaken studies on the geragogy of foreign languages for older Polish individuals. The research conducted so far indicates that acquiring foreign languages during late adulthood aids in preserving cognitive abilities in third-agers and may additionally assist in postponing the cognitive decline associated with ageing in healthy seniors. The people 60+ can often discover a renewed sense of purpose and improve their general well-being by acquiring proficiency in a foreign language, which can also provide them with opportunities to join and enrich new communities. It should be noticed that foreign language geragogy is still at an emerging stage in Poland and all the aforementioned research problems still require further studies.

First of all, it is vital for our considerations to define the term "seniors", as the definition varies across different European countries. The report on the situation of the older adults in Poland (Błędowski et al., 2012, p. 5) indicates the age of 65 as "the commonly acknowledged beginning of the so-called old age". It is the time when men can retire in Poland, whereas for women it is 60 at the moment.² The discrepancies between sexes in their possibilities to retire in Poland (five years of difference) are the source of different understanding of old age in the research conducted in Poland focusing on the aging of Polish society. In this article, a senior is defined as a person 60+, however, we are aware of the fact that this may change in the near future as a result of the prolonged period of professional activity of women in Poland. This assumption is supported by the research indicating that the current generations of middle-aged Poles, while reaching the older age will be better

² The retirement age currently applicable in Poland was legally introduced by the Pension Act of 1 October 2017 (www2). It is worth adding that the age 60 is also considered the beginning of old age by, e.g. World Health Organization (WHO).

educated and in better health than the current generations of seniors (Błądowski et al., 2012; Luy et al., 2019; Zhang et al., 2022).

As postulated and advocated in recent studies in geragogy, the terms “older adult”, “older individual”, “late L2 learner”, “third-age learner” or “third-ager” are also used in this article as the synonyms of the word “senior”.

The second key concept of this paper is *retrieval practice* (RP). At its simplest, RP strategy is a method of remembering that involves retrieving information that is not in front of us. In other words, this is a technique “in which bringing information to mind enhances and boosts learning” (Roediger and Karpicke, 2006). *Retrieval practice* is also perceived to be a powerful method of study, with the use of which students are able to use the learning material in a more active way. The most popular type of *retrieval practice* are: worksheets, quizzes, concepts maps, writing prompts, flashcards (Karpicke and Blunt, 2011).

Retrieval practice may be in fact a powerful mnemonic strategy that can facilitate long-term retention of information. According to Karpicke and Roediger, “retrieval of previously studied information can increase its long-term retention more than repeated study or elaborative encoding of information” (Karpicke and Roediger, 2008), which is called the testing effect. Multiple research have also demonstrated that increasing the frequency of retrieval enhances the retention of new words (e.g. Nakata, 2017; Peters, 2014). Nakata (2017) examined whether the impact of retrieval varies depending on the frequency of retrievals. Terai et al. (2021) conducted a study among 28 native speakers of Japanese learning English vocabulary with the use of retrieval practice. The results showed that L2 vocabulary research should take into account the correlation between memory retention mechanisms and bilingual language processing. The study by Frankenstein et al. (2022) exploring the relationship between retrieval practice, self-efficacy, and memory concluded that the improvement in memory on a final test after retrieval practice, as compared to restudy, can be attributed to the significant increase in self-efficacy and there is a correlation between retrieval practice, self-efficacy, and memory. It suggested that therapies that impact self-efficacy could potentially be used to regulate memory in certain situations.

RESEARCH AIM AND QUESTION

The main objective of the article is to draw attention to *retrieval practice* strategy as an applicable method in teaching foreign languages to older adults for developing/maintaining their cognitive skills. The purpose has been found relevant because of the aforementioned reasons: demographical status of the Polish third-agers, their growing socio-educational activation with a particular focus on their strong interest in learning foreign languages.

The article combines both review and empirical approach, which follows directly from its purpose. On the basis of the literature review and also using the authors' own research results, we want to indicate possible areas to use *retrieval practice* in foreign language learning/teaching of older adults.

The review perspective presents the overview and the analysis of the research conducted so far in the field of *retrieval practice* in education and the results of using this strategy in teaching children and teenagers. The second source of data for the study was a two-stage empirical research conducted among older adults' teachers having at least one year of experience in working with Polish late L2 learners.

The first stage of the research was an online survey, which was designed with reference to the insights from literature review in the area as well as the authors' own experiences and observations while teaching languages to older individuals. The final versions of the surveys consisted of thirty open-ended questions listed randomly, but in our study concept (which was already taken into account in the analysis stage) they were included in four sets of issues. We were interested in teachers' reflections on the following problems: a) seniors' language learning experience; b) psychological aspect of working with late L2 learners; c) the role of the older adults' teacher; d) didactic strategies in third-agers' language education. In any of the above-mentioned groups of issues *retrieval practice* strategy was not directly verbalized so as not to suggest any course of answers to the participants. The surveys were distributed with the use of Google Forms to the participants selected among the professional contacts of the authors of the article. Twenty people agreed to take part in the research, but the questionnaires were ultimately completed by seventeen participants.

The second stage of the research was a group interview with participants who filled out the survey. The interview, lasting around 60 minutes long, was recorded with the consent from the participants, then transcribed and content-analysed: first individually by each of the study's authors, then in a joint discussion. The main objective of the interview was to obtain in-depth answers to issues previously discussed in the surveys. The advantage of focus group research is that, like interviews, they allow informants a role in shaping the research (Bennett, 2002). Unlike one-to-one interviews, however, focus groups can be used to expose the differences, contradictions, unique experiences, views, perceptions and attitudes expressed by different group members (Bennett, 2002) allowing for a richer understanding of the issues.

The participants of the study were aged between 27 and 71. They had between 3 and 50 years of experience in teaching. Four teachers had worked for less than ten years, ten teachers had worked between ten to 25 years, and three of them had worked for more than 25 years. When it comes to teaching older individuals, five people had more than one year of experience working with this age group, six people had between three to ten years and there were also six people who had worked with third-agers for less than three years.

With regard to the foregoing, the article was planned to have the following structure. First, research in the field of RP strategy and its use in education of children and teenagers is presented, because RP has been used in these age groups so far. The next section devoted to seniors focuses on neuropsychological and didactic justification for implementing RP in education of older adults. Finally, a set of exercises with the use of RP strategy is proposed as a way of using retrieval of information to facilitate foreign language learning in late adulthood.

RESULTS

As already explained, *retrieval practice* is a strategy which boost learning by recalling information from memory. As it was proved in some studies, the increase of performance (20–50%) was observed in unit tests after the use of *retrieval practice* (Butler, 2010; McDermott et al., 2014). Traditionally tests are only used for assessment, however, in order to integrate new material with previously studied information it is possible to use so-called low-stakes quizzes. By doing so, long-term retention improves and students can easily recall information from memory. Thus, the benefits of *retrieval practice* have been shown to be wide-ranging, from improvements in long-term retention, reading comprehension, transfer of knowledge to metacognition (Butler, 2010; Carpenter, 2012).

The *retrieval practice* strategy is already widespread in the school education of children and young people. A learning strategy based on RP is often recommended to exercise and strengthen the students' memory. Research has proven (Agarwal, 2019) that this improvement in memory and long-term learning is adjustable, which:

- a) boosts students' complex thinking and application skills,
- b) boosts students' organization of what they already know,
- c) boosts students' transfer of knowledge to new notions.

In other words, retrieval practice not only leads to memorization – it expands general understanding of the topics. Students understand classroom material better, because they had practiced it using retrieval, so they are able to adapt their knowledge to new circumstances. In order to make sure students can remember and retrieve information, a wide range of questions can be used e.g. fact-based, complex, conceptual. What is more, thanks to retrieval practice, students can identify gaps in learning and become aware of what they still do not know. When using retrieval practice, it is easier for the students to assess what they already know and what they still need to practice and therefore it is easier for them to take appropriate study decisions. But better metacognition also benefits teachers: by seeing what students know and do not know, teachers can adjust lesson plans to ensure that all students have equal level of understanding.

RETRIEVAL PRACTICE IN THIRD-AGE LANGUAGE TEACHING AND LEARNING

Why *retrieval practice* for late L2 learners? The neuropsychological and didactic contexts

Learning has an indisputably positive impact on a person's cognitive development at every stage of life, but it takes on particular importance in the face of the deficits accompanying the ageing process. As it has been shown by neuroscientists, older individuals can benefit from engaging in various cognitive exercises of the brain, which may help them delay the onset of dementia (Ware et al., 2017). Older and well-educated adults who keep exercising their brains seem to be less inclined to develop Alzheimer's disease, as novelty and learning have been proved to be crucial factors in the preservation of brain plasticity (Salthouse, 2006; Kivipelto et al., 2006; Greenwood and Parasuraman, 2010).

No previous research in foreign language learning and teaching has discussed the application of RP strategy to the language education of third-agers. It might come as a surprise, especially taking into account the results of the recent research in the field of foreign language pedagogy, highlighting the problems seniors may face, as well as their unwillingness to take tests and be formally assessed (Jaroszevska, 2013; Słowik-Krogulec, 2019). Therefore, a very important point of reference for us are the results of the only experimental study to-date on the use of RP to improve the memory of older adults conducted by American neurologopedists (Rogalski et al., 2014). The results obtained allowed the authors to conclude that "older adults instructed in a study and testing technique that emphasizes recall and review can improve immediate and delayed retention of the text details compared to just reading the information" (p. 394). Based on these findings, we hypothesize that the implementation of RP-based teaching techniques can translate into better language learning outcomes for late L2 learners.

Authors' research results and discussion

As stated in section 2.2 of the paper, we provide a teaching perspective based on the research carried out among Polish teachers of seniors. According to Kilian (2015), "the role of teachers and educators is maximizing the benefits of learning in late adulthood by adjusting the methods of teaching to recognized and real needs and abilities of seniors" (p. 182; authors' translation). The outputs of the conducted research have shown that the vast majority of teachers are aware of the aforementioned attitude – 94% of our respondents admitted to adjusting methods and techniques when teaching foreign languages to older learners. As the most common adjustments, they listed: suitable content and form of teaching materials, slower pace of lessons, writing on the board more than when teaching younger adults.

However, the most emphasized need, in the opinion of the surveyed teachers, is regular review of the material – they declare the implementation of more revi-

sions of exercises and more frequent revisions of the material, as well as listening to recordings more times. In their opinion, such teaching strategies bring the best results, because they allow older learners for frequent revision and comfort with language acquisition as a mnemonic tool they need.

What is more, half of participants admitted that revising material works for them as a method for testing knowledge and progress. They find it a much better solution than formal testing, which is often stressful for older adults and, therefore, does not fulfill its function well (cf. "I do not test my students, revisions are a good source of information about the students' progress to me"). What teachers found valuable and unusual at the same time was e.g. small talk connected with the previous lesson, revision mind maps or various quizzes and language games. In terms of games, almost all participants confirmed the use of modern technology while language classes with late L2 learners (only two people disagreed), such as interactive whiteboard, various language learning applications (Quizlet, Kahoot, Duolingo) or virtual classrooms (Zoom, Google Classroom). They admitted to using these tools also because of the lack of materials adjusted to seniors' needs, especially in terms of many repetitions, required by seniors. At the same time, they provide support to prevent seniors' digital exclusion by developing their digital skills. Respondents mentioned, however, that they also use ready-made revision materials (e.g. accompanying course books) if they are available, saying that it is "yet another opportunity to review the material, which students like very much".

The vast majority of lecturers opt for assigning additional homework exercises. Teachers indicate here exercises that do not require the teacher's monitoring of work. The reviewing aspect is strongly emphasized also in the context of individual work/learning of older adults. More experienced teachers also pinpoint third-agers' expectations connected with homework and their positive attitude towards receiving homework tasks, which they find useful and developing, e.g. "Of course I assign homework tasks, seniors ask for them themselves"; "I always assign homework, for many seniors it is entertainment replacing crossword puzzles or sudoku".

Summing up – the results of the authors' own research seem to correlate with the findings to-date of the literature review about the positive influence of educational activity, including foreign language learning on the slowing down of the ageing process. The respondents of the study – lecturers working with Polish seniors noticed that older adults need a lot of revision and adjustments in terms of the pace of the lesson. Teachers also see the value of intensified revisions and memory retrieval. What is more, as the most positive and significant, they indicate getting to know the material, cognitive pleasure, entertainment (pleasant way of spending free time), eliminating the fear of testing, satisfaction when making progress and digital skills development. All the aforementioned benefits leave no

doubt about *retrieval practice* being a strategy worth considering for older adults language teaching model. Therefore, in the next section, we present a couple of suggestions and ideas on how to use *retrieval practice* in a fast-developing field of Polish foreign language geragogy.

Foreign language geragogy based on *retrieval practice* – proposed applications

The application section of this article starts with a short discussion about where *retrieval practice* fits best in language learning and teaching process. Rosenshine (2010) proposed 10 principles of instruction, basing his argument on a) research on cognitive science, b) research on master teachers, and c) research on cognitive supports. Two of the aforementioned principles are related to reviewing material: principle 1) – daily review, and principle 10) – weekly and monthly review. Daily review is an important component of instruction. Review can facilitate students with strengthening their connections with the material they had earlier acquired. Moreover, students need a lot of hours of practice to develop their knowledge and daily review can work as one component of this.

As for older adults teaching is concerned, daily review may work as a short revision at the beginning of each lesson, covering material from the previous lesson, before connecting it to the newly introduced one. Principle number 10 proposes weekly and monthly revisions. This may work well for late L2 learners too, as they can cover the materials from the last few lessons every month to facilitate the recall of information and processes.

Types of suggested exercises

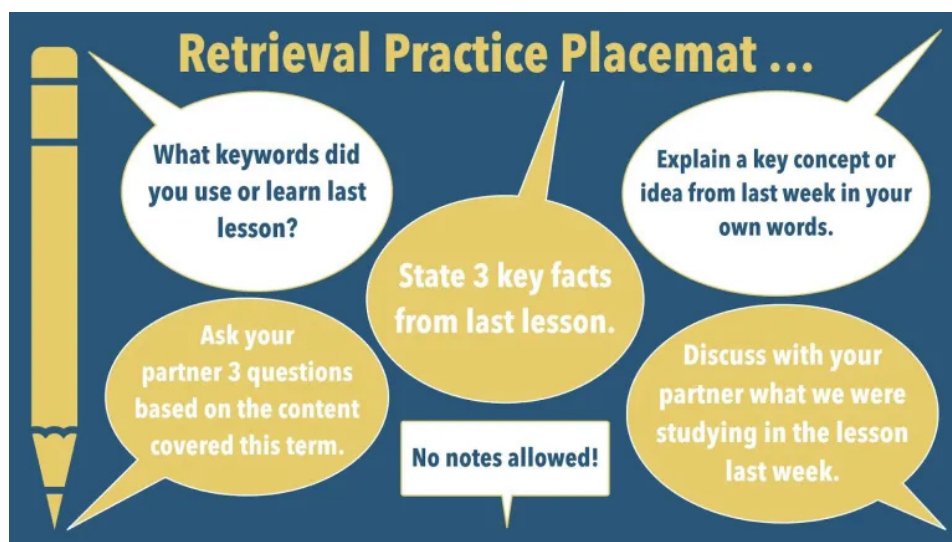
This section is an overview of a number of different retrieval practice activities that can be used in the classroom. The set of exercises presented in this article was based on the exercises proposed by Kate Jones in her books on retrieval practice (e.g. 2020). The chosen tasks were adapted by the authors of the article so that they suit best the needs of older adults. The exercises can be used both while performing daily review and monthly review. They can be used from as early level as elementary, because it is possible to adjust the chosen material to a particular group. The crucial fact is that the exercises should be mostly done only by recalling information from memory – in many cases no notes are allowed, although, as with late L2 learners, adaptations to their abilities can be assumed here.

A. *Retrieval practice placemat*

Retrieval placemat is one of the most popular exercises in retrieval practice. It consists of five circles, in which questions regarding last lesson's topic can be put for revision and students' self-reflection. The main goal of the retrieval placemat is to promote discussion among students about previously covered material and

retrieve the information from their memory by doing so. It can also help learners develop successful study habits by building their metacognitive skills in understanding what sorts of questions can be asked that will aid learning. There is a broad range of tasks which can be put in the circles, e.g. 1) *state three key facts from the last lesson*, 2) *name three words/phrases from the last lesson*, 3) *ask your partner three questions with the vocabulary from the last lesson*, 4) *explain to your partner a key concept from the last lesson*, etc. Because the questions are about general, universal topics, the proposed placemat can also be laminated and used on many occasions (Figure 1).

Figure 1.
Retrieval practice placemat



Source: (www1).

B. Brain Dump

This is another knowledge recall task. The term *brain dump* was coined by Agarwal et al. (2008) and refers to recalling as much information as possible from the brain about a specific unit or topic (only from memory, no notes allowed) onto a piece of paper. It is an example of an excellent warm-up exercise for an effective beginning of a lesson, when the teacher asks students to recall as much information as possible in the allotted amount of time (e.g. three or five minutes). It can be performed both individually or in pairs, or first individually and later in pairs, in order to compare the content each student recalled. Such an exercise could work both as daily and monthly revision (in the latter case, giving students slightly longer time for recalling information).

C. Walkabout Bingo

Walkabout bingo encourages students to talk to one another. It is simple to create and highly adaptable. The idea is that students work with a worksheet that includes a few questions about topic/subject. However, they cannot answer these questions themselves. They have to ask the questions to their peers. They can ask one question to one person. The aim of the activity is to have all questions answered by different members of the group and the first person to do it completes their “bingo grid”. This is a great activity for monthly revision, as it may cover questions from the whole unit, including vocabulary, grammar aspects, reading/listening comprehension questions, etc. (Figure 2).

Figure 2.

The Walkabout Bingo scheme

Walkabout bingo

Question:	Question:	Question:
Answer:	Answer:	Answer:
Name:	Name:	Name:
Question:	Question:	Question:
Answer:	Answer:	Answer:
Name:	Name:	Name:
Question:	Question:	Question:
Answer:	Answer:	Answer:
Name:	Name:	Name:

Source: Based on (Jones, 2020, p. 83).

D. Retrieval Practice Grid (for example, about a text)

Retrieval grid is another simple activity that is perfect for recalling already studied information. The grid consists of certain number of boxes, e.g. 3×3 , 4×4 , etc. depending on how much material there is to be recalled. Each box then includes a word/phrase/idea or a grammar chunk that later has to be explained by the students (for example, while performing pair work or individually).

E. Cops and Robbers

It is another activity that combines retrieval practice with developing communication skills in a foreign language. A piece of paper should be divided into two columns. In the “cops” column students have to write as much as they remember

from a particular unit in the limited amount of time (similar to the brain dump). Once they have done that part, the students start working in pairs and they can put in the “robbers” column some information that they “have stolen” from their partner (something that they could not remember themselves). This exercise can be facilitated by adding some verses on the worksheet suggesting certain topics covered. This would give the exercise more specific focus (Figure 3).

Figure 3.
The Cops and Robbers scheme

Cops and robbers

Your own knowledge you recall (cop)	Information you have stolen from your peers (robber)

Source: Based on (Jones, 2020, p. 82).

F. *Throwback Thursday or Flashback Friday*

This is a great exercise, which can become a part of a lesson routine with older adults. It is very easy to prepare and gives the students control over their learning. At the end of a lesson, students are given a homework task to come up with a few questions with the use of the content of the lesson. They should then prepare answers to those questions as well. After a while, students will be asked to come back to these questions and use them to see how much of the material they remember. Students will go back to these questions one week later, or longer, and test themselves how much they remember. This way, they can do a self-assessment.

CONCLUSIONS AND LIMITATIONS

This study aimed at presenting ways of incorporating *retrieval practice* strategies (and exercises) into third-age language learning as a facilitating tool. As proved among pupils and students, implementing low-stakes tests and quizzes might also be an effective way of reducing test anxiety (Agarwal et al., 2008). It would be also interesting to find out whether *retrieval practice* could reduce older adults' test anxiety, which seems very likely, but requires further research verification. This aspect can be seen as a sort of limitation, since only empirical research on a bigger sample (of late L2 learners) will allow to assess the positive influence of *retrieval practice* on the foreign language acquisition as well as the improvement of the cognitive skills. Currently, it can be concluded that third-agers need frequent revisions of material in various forms and they expect such methods in the language courses they attend. For this reason, both research and application projects should be continued to create teaching aids based on RP strategy on various levels of language advancement – not only at the beginner and elementary levels.

We hope that our proposal can initiate further empirical research in the field of the use of *retrieval practice* with older individuals in order to verify the validity of our proposal and create new foreign language pedagogy solutions. Discussion on the implementation of *retrieval practice* into teaching languages to older adults may change the way we perceive methodology of language education aimed at these learners' group. In the teaching of children and teenagers, frequent revisions may seem to be a waste of time and are often set as homework, which marginalize them as a learning tool. In the case of older adults learning a foreign language, the situation is quite different – retrieval of information from memory seems to be the crucial aspect of lessons. This results from the fact that in foreign language pedagogy, we are not forced to implement the core curriculum and achieve certain learning outcomes, which, in turn, does not impose the rush in teaching new material and generally fast pace of classes visible in other age groups.

In the case of late L2 learners, other goals are important and should be prioritized: learning a language, cognitive development, supporting memory processes and maintaining social contacts. The last three factors are undoubtedly crucial in the context of seniors' well-being, which allows us to observe that benefits of learning a foreign language have a holistic dimension for older adults.

REFERENCES

- Agarwal, P.K., Karpicke, J.D., Kang, S.H.K., Roediger, H.L., McDermott, K.B. (2008). Examining the testing effect with open- and closed-book tests. *Applied Cognitive Psychology*, 22(7), 861–876. <https://doi.org/10.1002/acp.1391>

- Agarwal, P.K. (2019). Retrieval practice & Bloom's taxonomy: Do students need fact knowledge before higher order learning? *Journal of Educational Psychology*, 111(2), 189–209. <https://doi.org/10.1037/edu0000282>
- Bennett, K. (2002). Interviews and focus groups. In P. Shurmer-Smith (Ed.), *Doing Cultural Geography* (pp. 151–162). Sage.
- Betlej, A., Leśniak-Moczuk, K. (2017). Technology and aging population network society: Towards virtually-based communities? *Roczniki Nauk Społecznych*, 9(45), 61–72. <https://doi.org/10.18290/rns.2017.45.2-4>
- Błędowski, P., Szatur-Jaworska, B., Szweda-Lewandowska, Z., Kubicki, P. (2012). *Raport na temat sytuacji osób starszych w Polsce*. Retrieved 7, December, 2022 from: http://senior.gov.pl/source/raport_osoby%20starsze.pdf
- Butler, A.C. (2010). Repeated testing produces superior transfer of learning relative to repeated studying. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 36(5), 1118–1133. <https://doi.org/10.1037/a0019902>
- Carpenter, S.K. (2012). Testing enhances the transfer of learning. *Current Directions in Psychological Science*, 21(5), 279–283. <https://doi.org/10.1177/0963721412452728>
- Eurostat. (2020). *Ageing Europe – looking at the lives of older people in the EU 2020*. Retrieved 5, December, 2022 from: <https://ec.europa.eu/eurostat/documents/3217494/11478057/KS-02-20-655-EN-N.pdf/9b09606c-d4e8-4c33-63d2-3b20d5c19c91?t=1604055531000>
- Greenwood, P.M., Parasuraman, R. (2010). Neuronal and cognitive plasticity: A neurocognitive framework for ameliorating cognitive aging. *Frontiers in Aging Neuroscience*, 2, 1–14. <http://dx.doi.org/10.3389/fnagi.2010.00150>
- Formosa, M. (2023). Five decades of older adult learning: achievements and challenges. *International Journal of Education and Ageing*, 5(3), 91–104.
- Frankenstein, A.N., Udeogu, O.J., McCurdy, M.P. et al. (2022). Exploring the relationship between retrieval practice, self-efficacy, and memory. *Memory & Cognition*, 50, 1299–1318. <https://doi.org/10.3758/s13421-022-01324-z>
- Gov.pl. (2019). *Mamy już 500 domów i klubów Senior+*. Retrieved 20, February, 2023 from: <https://www.gov.pl/web/rodzina/mamy-juz-500-domow-i-klubow-senior>
- Grotek, M., Kiliańska-Przybyło, G. (2012). Rola czynników afektywnych w procesie nauki języka obcego przez osoby w wieku senioralnym. *Teraźniejszość – Człowiek – Edukacja: Kwartalnik myśli społeczno-pedagogicznej*, 3(59), 111–124.
- Grotek, M., Kiliańska-Przybyło, G. (2014). Społeczne aspekty uczenia się języków obcych w późnej dorosłości – doświadczenia uczestników lektoratów w UTW. In M. Krystoń, M. Śerák, M. Szyszka, Ł. Tomczyk (Eds.), *Nowe tendencje w edukacji osób starszych* (pp. 197–213). Wyd. Wyższej Szkoły Humanistycznej w Sosnowcu.
- GUS. (2022). *Ludność. Stan i struktura oraz ruch naturalny w przekroju terytorialnym w 2021 r. Stan w dniu 31 grudnia*. Retrieved 16, November, 2022 from: <https://stat.gov.pl/obszary-tematyczne/ludnosc/ludnosc/ludnosc-stand-i-struktura-oraz-ruch-naturalny-w-przekroju-terytorialnym-w-2021-r-stand-w-dniu-31-grudnia,6,31.html>

- Jaroszewska, A. (2011), Współczesne determinanty badań glottodydaktycznych. O perspektywach rozwoju „glottogeragogiki”. *Neofilolog*, 37, 87–100. <https://doi.org/10.14746/n.2011.37.7>
- Jaroszewska, A. (2013). *Nauczanie języków obcych seniorów w Polsce*. Impuls.
- Jones, K. (2020). *Retrieval Practice: research, resources for every classroom*. John Catt Educational.
- Karpicke, J.D., Blunt, J.R. (2011). Retrieval practice produces more learning than elaborative studying with concept mapping. *Science*, 331(6018), 772–775. <https://doi.org/10.1126/science.1199327>
- Karpicke, J.D., Roediger, H.L. (2008). The critical importance of retrieval for learning. *Science*, 319(5865), 966–968. <https://doi.org/10.1126/science.1152408>
- Kic-Drgas, J. (2013). *Fremdsprachenlernen im Seniorenalter. Entwicklung und Evaluation von Lehr- und Lernmaterialien für Senioren*. Quaestio/NeisseVerlag.
- Kilian, M. (2015). Metodyka edukacji osób w starszym wieku. Podstawowe wskazówki i zasady. *Forum Pedagogiczne*, 1, 171–175. <https://doi.org/10.21697/fp.2015.1.13>
- Kivipelto, M., Ngandu, T., Laatikainen, T., Winblad, B., Soininen, H., Tuomilehto, J. (2006). Risk score for the prediction of dementia risk in 20 years among middle aged people: A longitudinal, population-based study. *The Lancet Neurology*, 5(9), 735–741. [https://doi.org/10.1016/S1474-4422\(06\)70537-3](https://doi.org/10.1016/S1474-4422(06)70537-3)
- Klimczak-Pawlak, A., Kossakowska-Pisarek, S. (2018). Language learning over 50 at the open university in Poland: An exploratory study of needs and emotions. *Educational Gerontology*, 44(4), 255–264. <https://doi.org/10.1080/03601277.2018.1454389>
- Luy, M., Zannella, M., Wegner-Siegmundt, Ch. et al. (2019). The impact of increasing education levels on rising life expectancy: A decomposition analysis for Italy, Denmark, and the USA. *Genus*, 75(11). <https://doi.org/10.1186/s41118-019-0055-0>
- Mawas, N.E., Muntean, C. (2018). Supporting lifelong learning through development of 21st-century skills. *EDULEARN18 Proceedings*, 1, 7343–7350. <https://doi.org/10.21125/edulearn.2018.1723>
- McDermott, K.B., Agarwal, P.K., D’Antonio, L., Roediger, H.L. III, McDaniel, M.A. (2014). Both multiple-choice and short-answer quizzes enhance later exam performance in middle and high school classes. *Journal of Experimental Psychology: Applied*, 20(1), 3–21. <https://doi.org/10.1037/xap0000004>
- Nakata, T. (2017). Does repeated practice make perfect? The effects of within-session repeated retrieval on second language vocabulary learning. *Studies in Second Language Acquisition*, 39, 653–679.
- Peters, E. (2014). The effects of repetition and time of post-test administration on EFL learners’ form recall of single words and collocations. *Language Teaching Research*, 18, 75–94.
- Piechota, D. (2020). Rehabilitacja starości. Glottogeragogika jako wyzwanie wobec ageizmu. *Annales Universitatis Mariae Curie-Skłodowska. Sectio N*, 5, 442–452. <http://dx.doi.org/10.17951/en.2020.5.441-452>

- Roediger, H.L., Karpicke, J.D. (2006). The power of testing memory: Basic research and implications for educational practice. *Perspective on Psychological Science*, 1(3), 181–210. <https://doi.org/10.1111/j.1745-6916.2006.00012.x>
- Rogalski, Y., Altmann, L.J.P., Rosenbek, J.C. (2014). Retrieval practice and testing improve memory in older adults. *Aphasiology*, 28(4), 381–400. <https://doi.org/10.1080/02687038.2013.870965>
- Rosenshine, B. (2010). Principles of Instruction. Educational Practices Series-21. *UNESCO International Bureau of Education*.
- Salthouse, T.A. (2006). Mental exercise and mental aging: Evaluating the validity of the “use it or lose it” hypothesis. *Perspectives on Psychological Science*, 1(1), 68–87. <https://doi.org/10.1111/j.1745-6916.2006.00005.x>
- Słowik-Krogulec, A. (2019). Developing efficient foreign language classroom environment for older adult learners. *Journal of Education Culture and Society*, 10, 189–200. <https://doi.org/10.15503/jecs20192.189.200>
- Słowik-Krogulec, A. (2020). What motivates older adult learners in Poland to study foreign languages in later life? *Beiträge zur allgemeinen und vergleichenden Sprachwissenschaft*, 9, 153–171. <https://doi.org/10.23817/bzspr.9-8>
- Terai, M., Yamashita, J., Pasich, K. (2021). Effects of learning direction in retrieval practice on EFL vocabulary learning – erratum. *Studies in Second Language Acquisition*, 43, 1116–1137. <https://doi.org/10.1017/S0272263121000346>
- Ware, C., Damnee, S., Djabelkhir, L., Cristancho, V., Wu, Y.-H., Benovici, J., Pino, M., Rigaud, A.-S. (2017). Maintaining cognitive functioning in healthy seniors with a technology-based foreign language program: A pilot feasibility study. *Frontiers in Aging Neuroscience*, 9, Article 42. <https://doi.org/10.3389/fnagi.2017.00042>
- Zhang, K., Chengxia, K., Yuohong, L., Hongwei, S. et al. (2022). The promotion of active aging through older adult education in the context of population aging. *Frontiers in Public Health*, 10. <https://doi.org/10.3389/fpubh.2022.998710>
- www1: <https://www.tes.com/teaching-resource/retrieval-practice-placemat-12270272>
- www2: <https://www.zus.info.pl/wiek-emerytalny/>

STRATEGIA RETRIEVAL PRACTICE W NAUCZANIU JĘZYKÓW OBCYCH SENIORÓW

Wprowadzenie: Na początku XXI w. seniorzy stali się kolejną grupą o specyficznych potrzebach edukacyjnych nie tylko z uwagi na uwarunkowania społeczne i neuropsychologiczne, ale też z powodu rosnącej liczebności osób w wieku 60+. Jedną z subdyscyplin reagujących na te okoliczności jest geragogika języków obcych.

Cel badań: Celem artykułu jest zwrócenie uwagi na strategię *retrieval practice* (RP) jako metodę odpowiednią w kształceniu językowym seniorów i utrzymywaniu ich zdolności poznawczych, jak również zaproponowanie ćwiczeń wdrażających strategię RP do edukacji językowej.

Metoda badań: Opracowanie ma charakter teoretyczno-koncepcyjny. Dokonano przeglądu literatury z zakresu neurologicznej i psychologicznej charakterystyki starszych dorosłych oraz – w odniesieniu do strategii RP – w obszarze nauczania dzieci i młodzieży. Dwuetapowe ba-

dania własne koncentrowały się na perspektywie wykładowców, którą zweryfikowano poprzez ankiety *online* oraz wywiad grupowy.

Wyniki: Strategia RP – z uwagi na udowodnione wsparcie neurokognitywne osób w wieku 60+ – jest wartościową metodą pracy ze starszymi dorosłymi, a także potrzebą dydaktyczną zgłaszaną przez tę grupę uczących się oraz ich lektorów. Wyniki pozwoliły na przedstawienie aspektu aplikacyjnego – sposobów włączenia RP do nauczania języka obcego w okresie późnej dorosłości. Zaproponowano kilka modeli ćwiczeń opartych na RP jako narzędzi ułatwiających edukację językową seniorów. Są to nowatorskie propozycje, ponieważ przez wiele lat strategia RP pozostawała poza zainteresowaniami badaczy i praktyków geragogiki języków obcych.

Wnioski: Strategia RP jest techniką wartą uwagi ze względu na cele towarzyszące nauce języka w wieku dojrzałym, takie jak rozwój poznawczy, wspomaganie procesów pamięciowych oraz utrzymywanie kontaktów społecznych. Zastosowanie strategii RP w ćwiczeniach językowych pozwala na urozmaicenie procesu edukacji językowej w sposób adekwatny do potencjału uczących się. Wszystkie te czynniki są kluczowe w kontekście dobrostanu seniorów. Korzyści z nauki języka obcego mogą mieć dla starszych dorosłych wymiar holistyczny, jeśli tylko nauka ta będzie prowadzona odpowiednimi metodami.

Słowa kluczowe: edukacja w wieku dojrzałym, seniorzy, nauczanie języków obcych osób starszych, strategia *retrieval practice* (strategia RP)

