

Natalia Tsai¹

 <https://orcid.org/0000-0002-3965-5704>

NO REWARDS ON THE WAY: STUDYING POLISH WITH DUOLINGO BY TAIWANESE STUDENT – LEARNING STRATEGIES AND THE APP APPROPRIABILITY

Abstract: The present study investigated language learning strategies applied by a female Taiwanese university student mastering Polish at the intermediate level, using Duolingo to supplement regular instruction in class. A case study, with daily self-reflection forms and in-depth interviews as the main tool of data collection, was conducted in order to understand (1) what LLS the student used and how she perceived them, (2) what picture of Taiwanese millennials learning Polish emerged from her responses and (3) how helpful the application was in this particular setting. The project included explicit LLS instruction followed by 30 self-study sessions with Duolingo. Data analysis revealed a marked preference for cognitive strategies, used 2.5 times more often than metacognitive ones, as well as clear avoidance of social mediation LLS. Elaboration, inferencing, deduction, note-taking, transfer, and monitoring were reportedly deployed more often than other strategies. The choice of LLS had been conditioned by the informant's educational background, highly competitive and test-oriented, and well as training in high school. Her responses revealed high regard for values associated with individualism. Duolingo was seen as a valuable substitute for traditional instruction if no off-line course was available. The participant, however, expressed her frustration stemming from the necessity to use English to study with the app. The key considerations included: the importance of sufficient promotion of PF language and culture, paying more attention to students' backgrounds and LLS repertoire, a need for explicit LLS training, as well as – for Duolingo – honoring the needs of users with lower EFL proficiency.

¹ natalia.tsai@onet.eu, Hsing Wu University, College of Hospitality and Tourism, Department of Applied English, No. 101, Sec. 1, Fenliao Rd, Linkou District, New Taipei City, 244, Taiwan.

Keywords: CALL, Duolingo, learning strategies, Polish as a foreign language, Taiwan

UCZENIE SIĘ JĘZYKA POLSKIEGO Z WYKORZYSTANIEM DUOLINGO PRZEZ TAJWAŃSKĄ STUDENTKĘ – STRATEGIE NAUKI I PRZYDATNOŚĆ APLIKACJI

Streszczenie: Niniejszy artykuł poświęcony jest strategiom nauki języka obcego stosowanym przez tajwańską studentkę uczącą się polskiego na poziomie średniozaawansowanym. Eksperyment objął trening strategii przeprowadzony w ramach zajęć oraz 30 sesji samodzielnej pracy z aplikacją Duolingo, włączonej dla uzupełnienia regularnego kursu w klasie. Celem tego studium przypadku było znalezienie odpowiedzi na następujące pytania: (1) jakich strategii uczestniczka użyła i jak je postrzegała?, (2) jaki obraz pokolenia Z wyłoni się po analizie danych, zwłaszcza w kontekście nauczania języka polskiego wśród studentów z Tajwanu?, oraz (3) na ile przydatne może być Duolingo w tym środowisku? Analiza danych uzyskanych po zestawieniu 30 formularzy wypełnionych przez studentkę i przeprowadzeniu dwóch 50-minutowych wywiadów wykazała, że strategie kognitywne wykorzystane były 2,5 razy częściej aniżeli strategie metakognitywne, podczas gdy strategii społecznych nie użyto wcale. Najprzydatniejsze okazały się: elaboracja, wnioskowanie, dedukcja, notowanie, transfer językowy oraz samokontrola. Ich dobór był w dużej mierze uwarunkowany wcześniejszymi doświadczeniami wyniesionymi ze szkoły – środowiska zorientowanego na współzawodnictwo i egzaminy. Wypowiedzi studentki pozwalały odnieść wrażenie, iż była ona pod silnym wpływem wartości kojarzonych z indywidualizmem. Z jej punktu widzenia Duolingo stanowiło jedynie namiastkę tradycyjnych zajęć i jako takie mogło służyć użytkownikom niemającym dostępu do innych form nauki. Wyraziła ona ponadto rozczarowanie związane z koniecznością posługiwania się językiem angielskim podczas pracy z aplikacją. Przedstawione studium przypadku ujawnia konieczność promocji języka i kultury polskiej oraz uwidocznia, jak ważne jest lepsze poznawanie przekonań, nawyków i strategii stosowanych przez poszczególne grupy studentów uczących się języka polskiego jako obcego. Co się tyczy Duolingo, twórcy aplikacji winni uwzględnić potrzeby osób mniej wprawnie posługujących się angielskim.

Słowa kluczowe: nauka języków wspomagana komputerowo, CALL, Duolingo, strategie uczenia się języków obcych, język polski jako obcy (jpjo), Tajwan

1. INTRODUCTION

The current study aims to provide an in-depth insight into the use of language learning strategies by a Taiwanese university student learning Polish

with Duolingo. The researcher's goal was to understand to what extent the app was useful as a means of supporting traditional instruction, given that the case had received explicit in-class training in some of the possible learning methods (priorly to the use of the app). Qualitative methods of data collection and analysis have been utilized to gain a detailed picture of the problem of LLS application by an app user. The self-regulated learning theory, seeing learning as governed by a range of interactions between cognitive, metacognitive, as well as motivational components (Kwarikunda 2022, p. 2) provided the framework for the research. This is an independent project, not sponsored by Duolingo or any other company or institution.

2.1. TAIWANESE FL EDUCATION

Recent political changes in Taiwan resulted in significant shifts from the old paradigm to democracy, which actively encouraged multiculturalism and multilingualism. In 2001, English was introduced to elementary schools, starting from the 5th grade (Nowosad, Błaszczuk 2020, p. 108). The learning styles and attitudes of local students have been shaped by Chinese culture conditioned by collectivism. The following characteristics may be observed: (1) the overriding authority of teachers who are also role models in terms of moral standards (Confucianism), (2) modesty and face-saving philosophy (resulting in students not asking questions in public), (3) preference for mutual collaboration to avoid showing off individual accomplishments, (4) fear of making mistakes, (5) valuing accuracy over fluency, (6) students' passive learning mode. They all lead to a general preference for teamwork and collaboration and an abundance of peer interaction in FL class. Mastering English is often associated with elevated social status and financial success. Learning methods are analytical, grammar-focused, and test-oriented. Numerous studies revealed a discrepancy between high scores on TOEFL and IELTS and actual English proficiency, especially the oral one. FL reading and writing skills are usually promoted and memorization is one of the key methods. It is not uncommon for highly motivated learners to take additional measures for more collaboration to occur, including membership in clubs (Kung 2017, p. 5–9). Although the communicative approach is deemed to prevail, in fact, there are many obstacles that affect the implementation of the method. Classes are large,² time is limited, and many teachers lack adequate training (Chang 2011, p. 9–10). What is taught in class is largely affected by

² From my own teaching experience, up to 70 students, but larger groups, up to 300 people, also can be seen.

the examination, leading to the so-called „washback effect”: instructor’s and students’ efforts are directed to practicing past examination papers, mastering test-taking skills, and drilling via multiple-choice exercises (Chou 2017, p. 1). These factors are of significant importance, for culture and educational background are believed to affect one’s use of LLS (Lai 2009, p. 272), which brings us to the next point, i.e., research on strategies in the Republic of China.

2.2. RESEARCH ON LLS IN TAIWAN

In Taiwan, the use of LLS by English learners has been widely researched at various educational levels, including high school (Yeh & Wang 2004, Tseng 2018) and academic settings (Lai 2009, Lee 2019). The participants in Yeh & Wang’s study (2004, p. 16) reported a preference for cognitive strategies and they used social strategies least frequently.³ Among the top ten LLS for learning vocabulary the following were mentioned: taking notes in class, studying the sound of a word, verbal repetition, written repetition, using an electronic dictionary, studying the spelling of a word, underlining the word, using the vocabulary section in the textbook, as well as guessing from the context (Yeh & Wang 2004, p. 17). High achievers in their project used LLS more often than their less successful counterparts, leaning towards analyzing parts of speech, learning the whole phrase including the new word (not in isolation), guessing from the context, using new words in sentences, learning new words from reading English stories, novels, and magazines, saying a new word aloud when studying, paraphrasing, and learning new words while listening to English radio programs (Yeh & Wang 2004, p. 22). Some conclusions have been drawn regarding students’ gender. Lee’s (2019, p. 7) findings revealed that female freshmen demonstrated predilection for metacognitive and memory strategies to social and cognitive ones. Chen and Jonas (2009, p. 115) found that female students tended to learn selective attention strategy, socio-affective strategy of cooperation, making up new words more often than males did, reporting a higher overall mean use of strategies than men. They also concluded that among Taiwanese college EFL learners, strategy usage ranged from medium to low level and that metacognitive LLS, mostly taught at school, prevailed. In their opinion, the majority of the students did not possess a wide repertory of

³ In Poland, similar research conducted among high school and university students revealed the dominant use of metacognitive and social strategies (Gajek & Michońska-Stadnik 2017, p. 76). The same study documented the behaviors of learners deploying technology to support foreign language learning.

techniques, suggesting that „they might not know or believe that those strategies will benefit their learning” (Chen and Jonas 2009, p. 119). Looking at the relationship between beliefs and LLS use, Tseng (2018, p. 15) wrote that some individuals hold on to the belief that „one should not say anything in the new language until one can say it correctly” and if you are allowed to speak with mistakes as a beginner, you may never learn to speak accurately (cf. Tsai 2015). The same author propounded that (1) individuals with better LLS enjoy more rewarding accomplishments, (2) the affective and social LS were positively correlated with learning satisfaction, and (3) motivation could be linked to the application of social and metacognitive tactics (Tseng 2018 p. 19–20).

2.3. STUDY BACKGROUND AND DESIGN

So far, little has been done to present LLS deployed by Taiwanese learners of Polish, especially in the context of computer-assisted education. As suggested by Lee (2019, p. 8), more qualitative studies are needed to better understand the use of LLS by local students, their experience, and their perceptions of modern teaching methods (cf. Zhou & Wei 2018, p. 489). The current project is an attempt to answer this need. The following research questions guided the investigation: (1) What LLS did the participant deploy and what pedagogical conclusions can be drawn from that? (2) What picture of a Taiwanese millennial PFL learner will emerge from the responses? (3) What can be learned about Duolingo and its value in complementing Polish instruction in Taiwan?

Set in a prestigious public university in northern Taiwan, the project comes with an extensive insight into the practices and perceptions highlighted by a female third-grade full-timer majoring in Slavic languages. When we first met, the woman expressed her hope to study in Poland.⁴ The intervention included (a) explicit instruction of LLS as well as (b) 30 sessions of self-study with Duolingo (23.11.2022–16.02.2023). The former stage took place in class; strategies, their application, and potential benefits were discussed in detail with both of the students enrolled.⁵ The latter one was carried out by the student after school. The data was obtained from 30 forms in which the participant reported the use of strategies each time she worked with the app and from two in-depth interviews conducted on the 3rd and 10th of March 2023 (total duration: 100 minutes).

⁴ In the interviews, however, no reference to that plan can be found. At that time the participant had changed her mind.

⁵ For the results obtained from the second participant’s, please see Tsai, 2023 (in print).

The informant was 21 years old. She came from a big city in southern Taiwan. A daughter of an elementary school teacher in a well-off family, the woman had previously received an excellent education that resulted in admission to the top university. She spoke English, first introduced in kindergarten, quite fluently. A double major (both in Slavic languages and digital technologies), the student had learned Russian for 5 and Polish for 3 semesters. She also reported having learned Japanese on her own, but not in a formal setting. Her GPA was above 95 (out of 100). She had never missed any of my classes. By all means, she was a high achiever, used to hard work. From my observation, the informant was rather confident in her own abilities.

2.4. DUOLINGO

Founded in 2011 in the US, Duolingo is a language learning platform that provides opportunities for exploring a wide range of languages (43 to date) and is available for free, making it a frequent addition to regular instruction in class, as proven in numerous projects.⁶ As suggested by Petlic (2019, p. 299), the worldwide community of software users, including people from different countries and from all walks of life, at various stages and ages, provides a marvelous opportunity for the exchange of cultural, historical, as well as personal experiences. Additionally, based on gamified approach, the app is often described as a motivating supplement to regular instruction (Andrzejewski 2018, p. 437). One of the software features widely researched by numerous scholars was the forum where users could interact with other learners and ask for guidance (Naruszewicz-Duchlińska 2014). It had been removed from the Duolingo website in March 2022, but learners still could contact each other via an alternative Duolingo Discord server and follow their social media accounts, which means that the app still provided a tool for interactions and collaboration based on the common goal of polishing a language of one's choice, which is important, because encouraging teamwork and promoting the communication between students is one of the modern teaching principles (Prizel-Kania 2021, p. 6).

⁶ For more comprehensive introduction, Readers might want to see my previous texts: Tsai 2022 and 2023. For user feedback, see Radomyski 2022.

2.5. „GOOD” FL LEARNERS

For O'Malley and Chamot (1990, p. 2), it was not an inborn talent that necessarily constituted a „good language learner”, but rather a wide spectrum of actions they undertook in order to achieve their goals („*some people just have an ear for language*” versus *they are „doing something special or different that we could all learn from*”). In her article on digital language learners, Turula (2016, p. 67) identified the following features this group displayed. First, they were *proactive* in their pursuit to use the target language, which often meant that they were working on their own, making intelligent guesses and experimenting to substitute the missing teacher's guidance. Second, they demonstrated rather *high self-awareness* levels, knowing what their digital practice lacked. The same author stressed the necessity to rethink learner autonomy and the shift from independence to interdependence where learning transcends the frames of individual intellectual pursuits and allows for the presence of peers. The Internet, thus, should not be seen solely as „a massive self-access center” (Turula 2016, p. 67). Only 26% of the participants in her study reported having social learning experiences and only 40% of these were positive. Generally, the students in the project were proficient in their attempts to navigate the web, but in fact, they lacked the ability to get the most of its educational advantages, which led the scholar to the conclusion that her informants were „tech-comfy” but not „tech-savvy”.

2.6. „GOOD” FL TEACHERS

Unsurprisingly, then, installing the learning skills in students becomes one of the tasks faced by the teachers because ultimately, the former ones need to learn independently (Yeh & Wang 2004, p. 31, Rapacka-Wojtala 2015, p. 80), especially in the context of CALL where even more autonomy is required and the availability of teaching tools is swiftly growing (Zhou & Wei 2018, p. 489). This goal can be achieved by providing a „purposeful, directed, long-term and explicit strategy instruction, especially schemes with a spiral design of recursive strategy training sessions in different contexts of language learning and use” (Dąbrowska 2016b, p. 43). Promoting understanding of one's own individual needs, preferences, and style is the key (Komorowska 2005, p. 228–229) since the majority of students might not be aware of their own ways of addressing such problems, especially in FL instruction context (Brown & Lee 2015, p. 52).

A good teacher – as pointed out by Handzel (2014, p. 207) – should be able to inspire life-long learning and stimulate curiosity. Now the expectations are even higher, since „a teacher without ample knowledge and skill in evaluating and utilizing effective technological tools may not be a good teacher in the Digital Age” (Zhou & Wei 2018, p. 488). However, as pointed out by Pawlak (2022, p. 21), it might be hard to incorporate suitable training into an overloaded teaching schedule. Many young instructors also lack sufficient know-how in this respect and find themselves in a position where they need to perform multiple functions at the very same time (Padzik 2021, p. 85, Dąbrowska 2016b).

3. LANGAUGE LEARNING/TEACHING IN THE CONTEXT OF CONTEMPORARY EDUCATIONAL CHALLENGES

3.1. SAVOIR-APPRENDRE

Language learning strategies (LLS) are henceforth understood as the special thoughts or behaviors used by language learners to enhance comprehension, learning, and retention (O’Malley and Chamot, 1990, p. 1). The authors of the first edition of *Common European Framework for Languages* saw the application of LLS as one of the learning techniques, along with the abilities to (1) make efficient use of the educational opportunities (including a focus on the input, understanding the task, efficient collaboration with fellow students, frequent and active use of the target language, as well as using available materials for independent studies), (2) prepare one’s own materials, (3) learn both language and culture-related content, paired with (4) the awareness of one’s own strengths and weaknesses, and (5) the ability to define one’s own learning goals (ESOKJ 2001, p. 98–99). The new, updated version also puts stress on the need to develop and deploy LLS in the larger context of taking responsibility for one’s own learning outcomes and encourages teachers to „engage learners as participants in experimentation with different methodological options” (CEFR 2020, p. 149). Additionally, the authors of the guideline emphasized the importance of convincing students „to reflect on their learning and to share this experience with other learners” (CEFR 2020, p. 149). As stated on p. 172 of the same document, LLS developed at one stage of learning are a precious asset that can be used later, while mastering yet another foreign language. In other words, we can succeed in learning a new one because we have built on our own repertoire of skills necessary for the task. Amerstorfer (2018, p. 516) emphasized the importance of seeing and building connections not

only between particular strategies, but also – in a broader sense – between the languages, we have learned and the knowledge we possess (about the world, school disciplines, and ourselves as well). She saw a link between the time and effort invested by an individual in deploying LLS and their autonomy level. Furthermore, LLS were seen in close relation to psychology, since they revealed much about human emotions, confidence, motivation, and anxiety (Amerstorfer 2018, p. 516).

This study reports findings referring to three groups of LLS, namely *metacognitive*, *cognitive*, and *social mediation strategies*. The first category includes „higher order executive skills that may entail planning for, monitoring, or evaluating the success of a learning activity” (O’Malley and Chamot 1990, p. 40); without them, students may lack direction. Cognitive strategies are more directly related to individual tasks and involve direct manipulation or transformation of the material, while the last class equals to cooperative learning that entails peer interaction and enables the interlocutors to support each other with information (O’Malley and Chamot 1990, p. 8).

3.2. SELF-STUDY REPORTS

The data gained from the forms showed the following: Altogether, the participant took 29 lessons of Polish (on average, 0.97 per session) and „several” sessions of Japanese.⁷ Only one session exceeded 1 Duolingo unit (day 3). 5 tests were taken, with sessions 1 and 6 spent solely on that (no regular lesson taken on these days). The reports were not accurate, which is why only tentative duration can be estimated, suggesting that each session lasted approximately 9.8–12.2 minutes and around 5 hours in total were spent (between 4:55 and 6:05 hours). Once an hour of work was reported, on day 13 when both Polish and Japanese were studied. The minimum declared self-study time was 5 minutes. It took 86 days to complete the task. The longest streak did not exceed a week. The longest break lasted 23 days (more than 3 weeks). There were altogether 13 breaks in the use of the application, 56 days in total: almost two times more than the actual work time. If calculated together with Japanese, 188 instances of LLS use were reported. 176 instances were reported in reference to Polish, on average 6.17 per lesson. Most often (7 times), 6 strategies per lesson were used. For Japanese, 14 LLS were applied within a single hour of learning. For Polish, a maximum of 11 per sitting was deployed. The following chart illustrates what strategies had been used more than 10 times:

⁷ Due to the lack of precision of the reported measures, Japanese is not included into later calculations.

Table 1. The strategies applied at least ten times

Strategy:	Suggested action:	Frequency:
Elaboration	Relating new information to other concepts in memory	27 times
Inferencing	Guessing meaning by using available information	23
Deduction	Conscious application of rules to processing L2	19
Note-taking	Taking notes in the notebook provided by the teacher	15
Transfer	Using previous knowledge to help to learn	10
Self-monitoring	Paying attention to the score	10

Source: own elaboration

Among the actions listed in the table, only self-monitoring is of meta-cognitive character. All other LLS represent the cognitive group. Let us now see the total calculation: Metacognitive LLS were reportedly used 53 times, while their cognitive counterparts – 135. The participant never reported intentionally trying out a new LLS. The sections with interview results reveal more personal perspectives on the issue.

3.3. INTERVIEWS

In the passages that follow, the data obtained during the interviews will be presented. The following problems will be highlighted: First, the student's self-perception as a language learner will be discussed, along with her motivation for learning Polish and her views on explicit LLS instruction. After that, we will see what she thought of Duolingo and how her opinion affected the application of strategies.

3.4. TECHNOLOGY-ENHANCED LLS

Recently, rapid technological changes resulted in a major shift in language learning, extending them from the classroom to a new dimension: „any time, any place, with any device” (Zhou & Wei 2018, p. 488) and the adoption of digital tools is “no longer a choice but a necessity” (Kim & Bae 2020, p. 36). On-line resources used in language pedagogy ought to be well-structured and based on solid methodological approaches (Čebrown et. al 2021, p. 21). The LLS use remains related to a broader context in which learning takes place. In computer-assisted education, individual self-reliance and a broad tactic repertoire are of key

significance, for the student is often physically isolated from others (Gajek & Mi-chońska-Stadnik 2017, p. 51). As pointed out by Zhou & Wei (2018, p. 487), digital natives might be competent users of technology, but not necessarily confident about their learning skills, thus, the need for an explicit LLS instruction that can help them to outperform their counterparts who lack such training. Burzyńska and Krajka concluded that „students need guidance and training to become aware of possibilities that could be used to enhance the learning process” (2015, p. 83).

3.5. CALL IN PFL CONTEXT

Integrating technology into PFL education has been widely discussed in the literature, especially in the context of the recent pandemic. There is compelling evidence that joint forms of Polish instruction, incorporating both traditional and computer-mediated methods would be welcome by students, as in a study by Masojć and Muryc (2022, p. 11) where 61.5% and 57% of the populations based respectively in Lithuania and the Czech Republic expressed their positive attitudes towards such ventures. Prizel-Kania (2021, p. 5) emphasized the importance of a skillful transition to the stage when learners are self-reliant in choosing, verifying, and applying various online resources and enjoy more freedom in terms of material selection, task execution, and communication style. This, in turn, fosters the individualization of their learning and results in students gaining fuller autonomy.

4. FINDINGS

4.1. SELF-PERCEPTION AS A FL LEARNER

First, the participant was *looking for a spark of excitement*, the hope expressed in the following words:⁸ „It should be like adventure in this culture.” It was her *curiosity* that inspired her to learn: „I know nothing about Polish and Russian, so I start. I think I should describe myself as a baby to this culture. We know nothing about the world or this culture. We are like children to this world or language.” When asked to elaborate on this metaphor, she explained: „Like a normal baby, I want to know something that is new, how people live in

⁸ Original wording throughout all interview quotations.

the daily life. They will ask teacher or parents. In this communication, you will improve your language skills and learn about culture. How young Polish talk to each other, how politicians talk – this kind of thing we can't know about the culture." From her perspective, the app in question could not provide such kind of guidance and authentic contacts with native speakers were indispensable to gaining insights into the target culture: „It's just an app to learning the language. I'll see the language as key to start my adventure. Duolingo can't give me the information. I can know it when I interact with people from Poland.”

The thrill was in the challenge: „I learn the new things or pursue for something that is not familiar to me, I'll be excited. The more difficult something is, the more exciting.”

For her, culture had a broad meaning: „What language they use, how they thinking. Asia and Europe – different kind of thinking way. Educational system: also different. Culture: how people live in this country. A total history of how people live in that ground.” She was excited to see the contrasts between Taiwan and other places: „I'm interested in Western culture, European, American. I'm just curious about culture that is different from Asian. Different lifestyle. I'm not really familiar with Polish culture. Poland is part of European. It's a Slavic Department, Poland has special part, different from German and French. It's charming for me.”

Her cognitive abilities paired with endearing character strength were her assets in the attempt to master foreign languages: „I'm good at memorizing something. I'm the person who has persistence. I'm easily to concentrate in something,” the woman said. When asked whether these features guaranteed success with Duolingo, she answered: „Only like persistent. Duolingo has many different lessons. If you have persistence, it will help you.” On the other hand, she was sometimes affected by her feelings: „I'm a person who is easily influenced by my emotion. So, if I'm in a bad or relaxing mood, then I don't want to study for anything.”

For our conversation class, which was scheduled for Friday, she reviewed the material once a week. Watching online videos was not among her most frequent practices and she was not proactively looking for such materials: „Seldom. Only if I saw something interesting or my friends share with me. Most if the time I didn't search. Russian most often than Polish, because most of my friends study Russian. They will share videos through IG.”

4.2. REASONS FOR LEARNING

Slavic Department was her Plan B: „After the results [of the entrance exams] came out, I see that I can't study in the European Languages Department, so I chose between the Slavic and Turkish Departments.” Her major was

Russian, but she still had to learn another Slavic language. She chose Polish to take advantage of the opportunities provided by the school: „To be honest, because I’m a student of the Department of Slavic Languages and Literatures, apart from Russian, I should learn another language. It’s better for me, because we have resources, something other universities don’t have.” Using it during her excursions was an option: „Before I thought that I want to study in Europe, but now I want to travel to Central Europe, so I need Polish or Czech.” In her opinion, learning Polish made her somewhat special, allowing her to stand out in comparison to others: „Many people study Czech, I don’t want to do what other people do. I want to be a unique person, I don’t want to be a normal person. In our generation, this kind of person will be successful. I can achieve a goal that most of the people cannot achieve. I can contribute something that other people don’t.” Familiarity with Chopin’s music was another factor. As an elementary school student, the informant played the piano. From her perspective, fluency in Polish was not a valuable asset. When asked whether the language was helpful, she said, „Honestly, no. But it’s fun, so I keep learning. Now I see Polish as a language which can let me travel in Europe.” She continued for the sake of perseverance: „I’m a person who like to persist something, so I don’t want to learn just as a beginner. I want to learn deeper. I don’t want to quit.” Her redefined learning goal was clear: „I want to travel by myself. I will know that I have achieved my goal if can travel around Poland for 6 months or a year by myself without help of translators. If you have enough money and time and you are healthy, it’s possible.” Her mother supported the dream, although the father, concerned about safety, remained sceptic. The participant identified success in learning with persistence and self-reliance: „(...) practice or repeat the vocabulary or phrases. If you have passion to the culture, you will learn better. You will search some videos or news. When you watch these resources, it will help you upgrade your language skills.”

4.3. LANGUAGE LEARNING STRATEGIES

According to the informant, there was *no point in teaching LLS* in class and, if needed, students could be instructed individually: „In Taiwan this is impossible. It is not fit to our culture. As Asian students, we often don’t talk about ourselves much, this is our privacy. (...) Someone will think that you tell them to talk about their goals, they will think, ‘I don’t want to answer such questions,’ like the score you give to yourself, they don’t want to talk about it. In some cases, some students really need the help of the teacher. They prefer to study with others or not to study alone, so maybe if there is a teacher to lead

them how to learn, it will be better. It will be better to give them individual advice. If there is a student who really know what to do, then the teacher doesn't have to." She personally did not feel she needed any hints. When asked whether she saw any connection between the idea of LLS instruction and the possible competitiveness of the top-school environment, my students answered: „Some people memorize vocabulary very quickly. They can have many notes. If they share their strategy, their classmates will think, „I'm not smart as she is." If I think I can't be like him, I'll quit my study, if the distance is not reasonable. If reasonable, I will be more successful. No denying that many people will be jealous to the successful person. It's nature. They now can't achieve. It's good for study, but for relationship it's not a good thing."

Elaboration was reportedly the only new strategy identified after receiving the explicit instruction, although she had applied it before: „Sometimes I associated Polish with Russian, but I didn't realize that."

4.4. DUOLINGO: GENERAL IMPRESSIONS

She used the app in her dorm room, which she shared with one schoolmate. Sometimes she studied in bed, on other occasions at her desk: „It depends on my emotion. If I'm so tired, if I learn Duolingo before I want to go to bed, then I study on the bed. If I learn in the daytime, I learn at the desk." In most cases, the student used the app late, after handling all huge demands, which was why she usually took only one lesson: „Because I usually have some classes or things to do in the morning or in the daytime, so I only have free time in the evening." Her satisfaction level was not extremely high; She evaluated the app „6–7 out of 10". From her point of view, it was *good for people who would have no access otherwise*. She could participate in traditional lessons, so the program was not necessary: „I have resources from the university, so I can study person-to-person, in class." Asked why she then tried Duolingo for learning Japanese, a language widely available both at the university and in various cram schools, she related it to her level: „As a beginner [in Japanese], I think Duolingo is good for me. Because I am a person who likes to do something that it's challenge. If I took the lesson that was too easy, it didn't motivate me. Japanese matched my level, so I think it was interesting. Polish – the lesson I took didn't match my level." In her opinion, however, the product still deserved recommendation, if no traditional course was available, but *the use of English* as a language of instruction was a problem. Firstly, language proficiency was an issue. Secondly, many Polish grammar concepts were not clear when presented in comparison to English, because these two languages had slightly similar grammar systems,

hard to understand for a non-native, with verb aspect being a good example: „I think I will [recommend Duolingo] because we don't have many universities which teach Polish. But Taiwanese students are not good at English, so it will not be easy for us. *HCB* and *CB*:⁹ I didn't know how it translated into English tenses: *had* or *have*? I made grammar mistakes.”

4.5. DUOLINGO: CRITICAL REMARKS

Apparently, she did not hold the work with Duolingo in high regard, which was why she was reluctant to resume once she discontinued: „If I took the break for too long, I didn't want to go back to it. I have other things that I love to do than studying language from application.” The reasons for her disfavor were: (a) *Lack of human interaction*: „Learning language is better to do it person in person, talk with the teacher, face to face, not just see on the cellphone. App – not good.” (b) *Lack of feedback for speaking*: „We can't learn the oral skills from application. It's hard to make my oral skills better. Maybe I'll repeat pronunciation. But there's limitation. Because they can't give me feedback, because they can't give me communication. I just do it by myself.” (c) *Disadvantageous presentation*: „Some tutorials offer person-to-person communication, fully structured lessons. Duolingo lacks such structure. (...) It's not a good choice: Separate many grammars, separate into different lessons. It's not a good arrangement. I prefer to have clear grammar description first, but small test then. 30- or 60-minute description of grammar first, then small quiz. They have different way of arranging in Duolingo and university. In university we also have Russian, so I know some grammar. I want to learn grammar and some new vocabulary. Duolingo wants you to learn step by step, very simple. But they use very simple vocabulary.” (d) *Usage of English*: „Also, sometimes I want to jump to another unit, but they have exam, but I make 5 mistakes, so cannot jump. Lesson is then too easy. But sometimes the mistakes I make due to English.”

Had she not been a participant in this study, she would have long discontinued her work with the app. Her second major imposed excessive demands on her time and mastering a language was „not her first choice” at the moment.

⁹ The informant used Russian terminology to explain her point. English equivalents are *imperfective* (Polish „aspekt niedokonany”) and *perfective* verb forms („aspekt dokonany”).

4.6. STRATEGIES USED FOR LEARNING POLISH WITH DUOLINGO

Elaboration allowed her to rely on her knowledge of Russian and, at the same time, to promote her understanding of that language: „Because I major in Slavic department, Polish has many similar grammar and vocabularies to Russian. It’s easier to learn it. If I can learn a language based on a language that is not my mother tongue, it will help both languages. It will help thinking, how the Russian may thinking about it, especially in grammar part. They both have *dopełniacz*, *miejsownik* and instrumental.” *Inferencing*, developed at earlier stages of education, was helpful for scoring higher on exams, but it was not productive for developing speaking skills: „When I was in the middle school and I saw totally new word in a paragraph, I would guess [its meaning] based on the sentences above. I wanted to get a better score. It became my hobby. It is a strategy for every Taiwanese student. Because we didn’t know what it means, but we had to answer the question. Good strategy for reading but not for speaking because we’re not familiar with this vocabulary. So, we can’t use it in oral conversation. We just learn it for the test.”

The deduction was facilitated by her understanding of Russian. As the informant pointed out, the program did not challenge her to actively apply the rules and, thus, did not prepare the user for real-life interactions. For her, mastering a language was not about chalking up with an app: „Also because of Russian grammar. I can easily guess what grammar have been used. For example, the genitive case: If I didn’t know how it change in Polish, Duolingo uses the system of choosing the bars, so I don’t have to know. You just have to choose it. Maybe for some beginners, it will help, maybe for me, it didn’t. I want to go to the country, I need to communicate with people who use it as their mother tongue. I don’t need a perfect score, but I need to know how to communicate.” My informant believed that the type of activities provided by the designers do not sufficiently promote communication skills. She refrained from joining the Duolingo community, thinking that the app was mostly for improving grammar: „Duolingo requests to type the vocabulary. It’s not a good way: The most important thing is to know how to communicate with people. Even I type it wrong, but I know how to communicate with people, it’s fine. Because I didn’t use the society, Duolingo community, I just did the lessons, so for the communication part, it didn’t help. We can use Duolingo to learn basic grammar and find people in different applications, like Facebook, to communicate with them. It’s not important what app we use for learning communication. Duolingo is for basic grammar.” „If *any* app, then why not Duolingo?” I asked. She was more willing to join a community where the primary binder

was an interest in something other than a language and Polish was simply used for interactions: „If you want to chat, you need to have similar hobbies, so you can start your communication. There are many people on Duolingo but not everyone is interested in learning Polish. Also, we can't meet the Polish people there. On Facebook, I can naturally meet someone from Poland. It won't be weird, because we're in the same language Facebook group, based on interests other than language. Maybe we can both like pop music, then we can have common ground. I like their culture or I'm interested in their political.”

Note-taking was a way of preventing mistakes. Here is her insight: „[Note-taking was] also one of my hobby in high school. In Chinese culture, we can make a mistake, but we can't make it twice. We can write down what kind of mistake I made and avoid it. Based on Chinese culture and my hobby. But not every Asian or Taiwanese to follow it. They think it's okay to make mistakes, especially young generation. We have received different style, like Korea or Japan: We can make mistake. It's okay for them. Asked whether she agreed with that she replayed: „We have the right to make mistakes. But it's important to avoid this mistake. In study, it is possible. But in the life or in the decision about the real life it's impossible. The decision doesn't have really correct or incorrect answer.” This strategy was helpful for learning new words, too: „Taking notes is also for new vocabulary. I didn't take notes every time, because not every time I saw the new vocabulary. I also didn't make mistakes every time.”

Finally, language **transfer** turned out to be helpful, allowing her to see the material in a broader context and successfully use it when needed in the future: „Based on Russian. Every time I learn, even if I start, even I choose the good answer, I understand how it changed in Polish. So, next time, after learning the lesson, I can understand how to apply this.”

In terms of metacognitive strategies, my student's comments on **self-monitoring** again revealed her frustration caused by the use of English: „Most of the time I want to taking the jumping test, but I made some mistakes based on the English or spelling. When I didn't pass the „jumping test,” it will influence my emotion. I couldn't jump forward. [So,] I studied the unit, but it is not helpful. It [the test failure] is based on not very important mistakes for learning a language. I made mistakes because my English is not good. I want to focus on learning Polish, so it's not important. Duolingo is for grammar, so the most important mistakes is grammar.”

4.7. STRATEGIES *NOT* UTILIZED BY THE LEARNER

The picture would not be complete without understanding why some strategies had never been employed by the student while working with Duolingo. First, **cooperation**. From the student's point of view, there was no point in contacting others: „I used Duolingo to learn grammar. If I really want to communicate with other Polish learners, I'll find them. But I didn't want. It was not really necessary. I want to go to Poland and communicate with Polish person to person.” The techniques she had mastered before seemed to work for her, which was why she rejected the idea of trying out **directed physical response**, as illustrated in the following excerpt: „It's enough to just memorize it, so it didn't matter if I use my body. I'm rational: I want to pursue for efficient way to learn something. If I think it's enough, then I don't do other things. Memorize by looking and by saying or I will write down.” Here is why she did not **visualize**. Her response revealed how she perceived the practice of providing sentences that are unlikely to be used in day-to-day conversations: „The vocabulary I've seen is not enough to imagine a situation: *Five tigers eat an apple*. It's funny and ridiculous to imagine. Visualization is important, but it's a ridiculous sentence. The sentence they use is not a good resource to imagine. Maybe it's better if they change. They can use text or sentence really used by Polish. It will be helpful for me to visualize. For beginners it's good, necessary when you learn it. Maybe they know few vocabularies. If they didn't understand any word, they won't focus on grammar. If you want someone to focus on grammar, use simple vocabulary. Most of the time they give me the material that didn't make sense. They made a sentence because they want us to learn grammar. Most of the time it didn't make sense: there are animals and there is action. This seldom happens in real life. I can't adopt it in daily using. It's good for beginners, but not for learning forwards. For beginners, vocabulary of animals is easy to memorize. If they use abstract concepts, it's difficult to visualize or memorize. Animals is a good choice for learning the vocabulary.” Besides, the student did not ask me for any additional clarification (**question for clarification**). She was self-sufficient and saw no need to do that: „Because we had Internet. The mistakes that I made... I can find it online. If I can't understand, I can ask the teacher, but it didn't happen. Everything I can find on the Internet.” Finally, we briefly discussed **self-reinforcement**, a strategy used only once. The participant expressed her belief that studying was her duty and she was determined to accomplish what she planned, adding: „No rewards on the way.”

The informant had never purposefully tried out any new strategy from the list provided in class, thinking that her own repertoire worked well for her and there was no need to improve it: „It is enough to learn by what I just did it. Just by looking at it, I feel comfortable. I wouldn't do another strategy.”

5. DISCUSSION

As stated above, this study aimed to answer three questions. Let us now answer each of them.

(1) What LLS did the student use and what pedagogical conclusions can be drawn from that? In the course of the project, cognitive strategies were reportedly used 2.5 more often than their metacognitive counterparts (unlike in my previous project, cf. Tsai 2023). This could be related to the fact that this participant was by all means a high achiever, used to processing large amounts of linguistic material, and oriented towards achieving the best results. Among the five *cognitive* LLS applied at least 10 times during the 30 self-study sessions, elaboration was used 27/30 times (90%), inferencing – 23/27 (85%), deduction – 19/30 (63%), note-taking 15/30 (50%), and transfer – 10/30 (33%). Self-monitoring, a strategy representing the *metacognitive* group, was applied, just like transfer, 10 times, i.e., every third time she studied with the app. No single application of *social mediation* strategies was found. These findings align with the study by Yeh & Wang (2004, p. 16) but contradict those by Chen and Jonas (2009, p. 115).

At this point, let us briefly consider the phenomenon of apparent rejection of collaboration observable in different studies. As pointed out by Zhou & Wei (2018, p. 489), the shift towards online learning environments might come with a call for training in social language learning strategies, taken for granted in traditional classroom settings.

Analyzing the responses, we could see how strongly the application of LLS was rooted in the student's own culture, with *inferencing* providing a notable example, often aimed at facilitating test-taking skills, but not interaction. Western teachers working with Asian students could benefit from understanding their LLS better, especially put against wider backgrounds, enabling them to identify implicitly imprinted patterns. At the end of the day, local instructors who worked with them long before us, had the best in mind, just the manner they defined it could have been different. As students move on and the demands change, new ways of understanding success and learning should be introduced. Keeping face in public or ranking high in class can be contrasted with the goal of effective communication, even at the cost of taking a risk every now and then. Redefined learning goals can go first, new ways of mastering the language will follow.

(2) What picture of a Taiwanese millennial learning Polish will emerge from the responses? As already mentioned, this case was representative because individuals like her often apply for scholarships abroad, seeing studies in Poland as a natural extension of the program. One may notice, though, that

learning Polish was not something she had intended to do before her enrollment in the department. It was rather an outcome of her current circumstances: She could not study in her dream section, so she opted for the second best, in this case, Slavonic languages. Polish was optional, *niche not cliché* in comparison with popular Czech. Familiarity with Polish culture (Chopin) mattered as well.¹⁰ At the time of our interviews, the woman had reportedly abandoned her dream to study in Poland and now only planned to travel to the country, so that she could utilize her language skills and experience the culture first-hand (cf. Falk et. al, 2012, p. 909). Interestingly, Janowska (2011, p. 78–79) observed the opposite tendency, stating that nowadays practical motivators for learning PFL have started to eliminate travel plans.

In terms of her self-perception as a learner, the informant expressed a sense of *child-like curiosity* going hand in hand with a need for authority, not only in terms of linguistic progress but also for exploring the culture encountered along the way, as described by Zarzycka (2021, p. 60). On the other hand, the student identified learning a foreign language with a *quest for thrill and adventure*. If this approach can spark curiosity, it is desirable, but could somewhat put the learner in a position of a passive consumer. The case reported no willingness to explore any online resources by herself; She would rather wait for her classmates to share a link on social media. The woman had not been given a chance to the informal online community of Duolingo and saw the app solely in terms of grammar training. At the same time, she had not tried to establish collaboration elsewhere. One might notice that this attitude is not uncommon among Taiwanese students, fully accustomed to convenient learning, but not necessarily proactive or willing to explore different options on their own initiative.

Those who equal Asia with collectivism could have been surprised to see that the interview did not confirm this stereotype. The case seemed to be driven by her desire to be different, outstanding, and, thus, noticeable, which was why she wanted to learn Polish in the first place. Following one's passion was the main drive. The student saw no need to join any community of learners outside of her school. The dream journey to Europe, one of the main motivators for learning, was meant to be solo. As a representative of Taiwanese millennials, the woman had grown up accustomed to the culture of social media, persistently promoting *individualism*, accomplishment, and comparison (cf. Praprotnik 2019, p. 125).

The responses also enabled us to better understand the *educational background* shared by many Taiwanese learners, oriented toward competition and exams. This is often reflected in the strategies used later on. If these LLS do not fully align with the values prioritized in more advanced stages, certain

¹⁰ More on the reasons for signing up for Polish class have been discussed in Tsai (2023), where the participant took it mainly because Russian was full.

adjustments ought to be made in order to optimize the learning process. In this particular case, however, they reportedly worked well enough to succeed. We might also want to review our assumptions regarding students' actual *proficiency in English*, which should not be taken for granted, especially if we hope to build comparisons or use it as a medium of instruction. Besides, it is not uncommon for Taiwanese to *fear mistakes* and go a long way to avoid them (Tsai 2015). As we could see in her unedited responses, this approach does not automatically prevent one from committing them every now and then, but it did not impair communication.

(3) What can be learned about Duolingo and its value in complementing PFL instruction in Taiwan? Generally, the program did not get much appreciation from the student's side. It was so mainly because she was granted unrestricted access to other learning resources at her university. (She saw Duolingo, however, as a valuable substitute if an off-line course was not an option.) For this reason, she felt no need to explore its capacities to the fullest and rarely went for more than the bare minimum of one lesson per sitting. The woman was also frustrated by her inability to proceed to the higher level. It was, to some extent, due to a lack of proficiency in English, not Polish. The informant reported feeling stuck at a level that did not suit her true needs. Her observation that to score high on Duolingo, one did not actually need to know the answer, actually undermined the educational value of the app. Furthermore, the duration of her app-enhanced self-study was extended to 86 days, instead of 30, with breaks actually exceeding the streaks and the whole process taking three times longer than originally intended. The task got completed but with a significant delay. The Japanese course, once started, never found its continuation. On the other hand, this student had never skipped a single off-line class, which showed her unquestionable diligence; procrastination was never an issue. Perhaps activities that can be undertaken at any time, unlike clearly scheduled physical classes, rarely become one's priorities.

6. CONCLUSIONS

The following considerations can be offered to summarize the study.

More Than Piano Recitals. First, if a language is to be learned in Taiwan, there is a continuing need to promote the culture. Otherwise, it remains just a niche chosen by a few adventurous individuals willing to be unique. The position of Polish FL instruction in local academic settings still remains our weak point and it is not necessarily due to lack of qualified staff. Hopefully, initiatives like the recent Taipei International Book Exhibition (TIBE Taipei,

31 January – 5 February 2023), where Poland was a guest of honor, can promote awareness of Polish cultural heritage and, in turn, raise interest in the language. The participant expressed her dream to visit Poland one day and stay there for a couple of months. This suggests that promoting local tourism can be another powerful factor for attracting Taiwanese people, often unaware of PFL's „market value”.¹¹

Insights Into the LLS Background. Secondly, for the instruction to be successful, more needs to be understood about the LLS used by Taiwanese students, which should be seen against a broader context of primary and secondary education and the values implemented along the way. Such insights would allow for a better understanding of habitual solutions chosen later in life and, if needed, for making necessary adjustments. Besides, Western FL instructors and test designers could benefit from discovering more about strategies deployed by Asians, which could change the way we prepare students for exams. There is so much to be learned.

Need for an Expertise. The participant clearly expressed her need for authority, an expectation not uncommon for the Confucian tradition, where the FL teacher is perceived as a guide to a new culture. In the classroom, such expertise could be shown at various levels: from explicit instruction and the use of authentic materials to the values reflected in our daily interactions. If this is the case, we may not fear that technology would soon eliminate the need for human educators, as some do, but rather take advantage of the support it brings.

Explicit LLS Instruction. Despite the participant's disapproval, explicit instruction of LLS seems requisite, especially when the language taught and the students' L1 represent very different educational cultures. It should go beyond words of encouragement alone towards hands-on activities that demonstrate the deployment of given techniques and make their effectiveness evident. As we could see, more attention, perhaps, should be paid to developing social competence, especially in online settings. To reduce anxiety, the training can downgrade the need for zero-sum thinking: My success in learning does *not* come at the expense of yours.

Suited to Success but Not to Duolingo? The following recommendations for app designers can be drawn. Firstly, the implicit expectation that the users are very fluent in English can actually work against the mission of making education „available to all”, as stated on the app's website.¹² In this environment, EFL education is taken seriously, in accordance with the government policy of „boosting the competitiveness of Taiwan's young generation” internationally.¹³

¹¹ Term used by Kowalewski (2012, p. 63).

¹² www.testcenter.zendesk.com [01.03.2023].

¹³ www.ndc.gov [01.03.2023].

As mentioned above, the participant had received a decent education and now studied at a top university. The informant, by all means fluent, was able to give an interview in English and clearly express her ideas. The minor mistakes did not jeopardize the communication. It still did not, however, allow her to use the app in a comfortable way. On the contrary, the use of English caused a great deal of frustration and discouragement.

Possible Solutions. The brains behind the app could consider creating a simplified edition for non-native users of English. Certain grammar concepts, with the verb aspect providing a typical example, should be explicitly presented because assuming that they are clear to most users proves counterproductive. Tests ought to evaluate the knowledge of the language taught, not that of EFL. In regard to the LLS, as we could see, the student relied on *elaboration* a lot. Including sections where similarities between different languages get presented could spark even more curiosity in learners and promote retention. Note-taking and better organization skills could be encouraged if printable handouts are available. So much effort has been invested in developing the app that it would be a waste if it is identified solely with playful activities, as opposed to serious (i.e., „efficient”) learning. It might be true that the app is a go-to for people who have no other options for learning a chosen language, which is why the improvement is of key importance. With the community of learners being so diverse and multinational, more research is needed in terms of the strategies used by representatives of different cultures. Speaking of community, there is a need for case studies giving a detailed insight into the Duolingo society, especially in the light of social mediation strategies, so that the users can know how to make the best out of it and not avoid it, as was the case in this study of mine and the previous two as well.

Limitations of the Study. Despite the researcher’s efforts, the project was not free from drawbacks. They included, though were not limited to, the fact that no specific reference to technology was made throughout the study, which is due to the author’s lack of competence in the realm of science. One could wonder whether a single student was representative enough. The answer is *no*, one person did not speak for all local millennials, which was why this project came as the third case study dedicated to Duolingo-enhanced PFL education in Taiwan, each one shedding light on the problem from yet another perspective. Besides, the design did not include direct observation of the user’s actual behavior while studying with the app, which was due to the fact that the participant used it in her free time, including the winter break, as a supplement for the physical course, and was given freedom in the way she managed the task.

REFERENCES

- Amerstorfer, C., 2018, *Past its expiry date? The SILL in modern mixed-methods strategy research*, „Studies in Second Language Learning and Teaching”, p. 497–523. <https://doi.org/10.14746/ssl.t.2018.8.2.14>
- Andrzejewski, A., 2018, *Flipped teaching and gamification as a connectivistic application of cyberspace resources in education*, „International Journal of New Economics and Social Sciences”, 2(8), p. 431–440. <https://doi.org/10.5604/01.3001.0012.9961>
- Burzyńska, K., Krajka, J., 2015, *Learning Strategies in the Digital Age – Towards a New Taxonomy for The Language Classroom*, „The New Educational Review”, p. 75–85. <https://doi.org/10.15804/tner.2015.41.3.06>
- Chang, M., 2011, *Factors Affecting the Implementation of Communicative Language Teaching in Taiwanese College English Classes*, „English Language Teaching”, Vol. 4, No. 2, p. 3–12.
- Chen, K.T. & Jonas, D., 2009, *Understanding Taiwanese college students' strategies for English language learning*. *Chaoyang Journal of Humanities and Social Sciences*, 7(1), p. 97–130.
- Chou, M.H., 2017, *Impacts of the Test of English Listening Comprehension (TELC) on teachers and teaching in Taiwan*, „Asian-Pacific Journal of Second and Foreign Language Education”, 2(5). <https://doi.org/10.1186/s40862-017-0028-9>
- Čebrown, N. et al, 2021, *Between traditional and mobile language learning*, „Bulletin of the Transilvania University of Braşov, Series IV: Philology & Cultural Studies”, No. 2, p. 19–28.
- Common European Framework of Reference for Languages: Learning, teaching, assessment – Companion Volume with New Descriptors [CEFR-CV]*, 2020, Strasbourg.
- Dąbrowska, M., 2016a, *Teachers as Learners: Learning to Learn through Strategy Training. Part II. Strategic Teacher Competences*, „Rozprawy Społeczne”, t. X, nr 1, p. 23–30.
- Dąbrowska, M., 2016b, *Teachers as Learners: Learning to Learn through Strategy Training. Part III. Strategy Instruction in Teacher Education*, „Rozprawy Społeczne”, t. X, nr 2, p. 36–46.
- Europejski system opisu kształcenia językowego: uczenie się, nauczanie, ocenianie [ESOKJ]*, 2003, Warszawa.
- Falk, J. et al., 2012, *Travel and learning: A neglected tourism research area*, „Annals of Tourism Research”, Vol. 39, No. 2, p. 908–927.
- Gajek, E., Michońska-Stadnik, A., 2017, *Strategie uczenia się języków obcych w środowisku cyfrowym*, Warszawa.
- Handzel, A., 2014, *Nowe technologie na lekcjach języka polskiego*, „Postscriptum Polonistyczne” nr 2 (14), p. 205–217.
- Janowska, I., 2011, *Profil dorosłego uczącego się języka polskiego jako obcego, czyli kto, gdzie, dlaczego i w jaki sposób uczy się języka polskiego w naszym kraju?*, „Neofilolog”. <https://doi.org/10.14746/n.2011.37.6>
- Kim, G., Bae, J., 2020, *A study into students' use of digital English learning strategies in tertiary education*, „Teaching English with Technology”, 1(20), p. 21–42.
- Komorowska, H., *Metodyka nauczania języków obcych*, Warszawa 2005.

- Kowalewski, J., 2012, *Język polski (nie)jako obcy*, „Postscriptum Polonistyczne”, nr 2 (10), p. 55–75.
- Kwarikunda, D. et al., 2022, *Profiles of learners based on their cognitive and metacognitive learning strategy use: occurrence and relations with gender, intrinsic motivation, and perceived autonomy support*, „Humanities and Social Science Communication”, No. 9. <https://doi.org/10.1057/s41599-022-01322-1>
- Kung, F.W., 2017, *Teaching and Learning English as a Foreign Language in Taiwan: A Socio-cultural Analysis*, „The Electronic Journal for English as a Second Language”, 21(2), p. 1–15.
- Lai, Y.C., 2009, *Language Learning Strategy Use and English Proficiency of University Freshmen in Taiwan*, „TESOL Quarterly”, 43, p. 255-280. <https://doi.org/10.1002/j.1545-7249.2009.tb00167.x>
- Lee, J.Y., 2019, *Revisiting the Use of Language Learning Strategies by University Freshmen in Taiwan*, „International Journal of English Linguistics”, Vol. 9, No. 5.
- Masoń, I., Muryc, J., *Czy mówisz po polsku, sąsiedzie? Potrzeby i oczekiwania Czechów i Litwinów wobec platformy do nauki języka polskiego polski.info*, „Postscriptum Polonistyczne”, nr 2 (30), p. 1–16. https://doi.org/10.31261/PS_P.2022.30.06
- Naruszewicz-Duchlińska, A., 2014, *Nowe media a nowe gatunki – wstępna charakterystyka genologiczna internetowego forum dyskusyjnego*, „Postscriptum Polonistyczne”, nr 2 (14), p. 27–38.
- Nowosad, I, Błaszczuk, M., 2020, *Kształtowanie tajwańskiej tożsamości narodowej w polityce edukacyjnej Tajwanu*, „Edukacja Międzykulturowa”, nr 1 (12), p. 98–112. <https://doi.org/10.15804/em.2020.01.05>
- O'Malley, J.M., Chamot A.U., 1990, *Learning Strategies in Second Language Acquisition*, Cambridge.
- Padzik, D., 2021, *Nauczyciel XXI wieku – role i wyzwania*, „Języki Obce w Szkole”, nr 2, p. 83–88. <https://doi.org/10.47050/jows.2021.2.83-88>
- Pawlak, M., 2022, *Nauczyciel języka obcego jako „człowiek renesansu” – oczekiwania a rzeczywistość*, „Języki Obce w Szkole”, nr 2, p.15–24. <https://doi.org/10.47050/jows.2022.2.15-24>
- Petlic, M., 2019, *Uczenie się języków obcych w formie e-learning. Analiza porównawcza warunków uczenia się osób wybierających naukę na dwóch rodzajach platform*, „Ogrody Nauk i Sztuk”, 9, p. 290–300.
- Praprotnik, T., 2019, *The Power to Choose or Power to Lose? Networked Individualism and the Usage of Social Media, Managing Geostrategic Issues*; in: *Proceedings of the Joint International Conference, Opatija, Croatia, 29 May–1 June 2019*, p. 121–133, Koper.
- Prizel-Kania, A., 2021, *Nauczanie języka polskiego jako obcego wspomaganie technologicznie – wczoraj i dziś. Bilans doświadczeń po roku kształcenia na odległość*, „Postscriptum Polonistyczne”, nr 28(2), p. 1–16.
- Radomyski, K., 2022, *Opinie użytkowników aplikacji Duolingo. Analiza komentarzy z Google Play Store*, „Języki Obce w Szkole”, nr 3. <https://doi.org/10.47050/jows.2022.3.102-112>
- Rapacka-Wojtala, S., 2015, *Metody, strategie oraz techniki nauczania, uczenia się i zapamiętywania stosowane w procesie kształcenia kompetencji komunikacyjnej uczniów na lekcji języka obcego*, „Społeczeństwo. Edukacja. Język”, p. 73–86.

- Tsai, N., 2015, *Jak tajwańscy studenci uczący się języka polskiego postrzegają własne błędy w mówieniu*, „Acta Universitatis Lodziensis, Kształcenie Polonistyczne Cudzoziemców”, t. 22, p. 107–124. <https://doi.org/10.18778/0860-6587.29.03>
- Tsai, N., 2022, *Learning Polish with Duolingo: A case study in Taiwanese academic setting*, „Acta Universitatis Lodziensis, Kształcenie Polonistyczne Cudzoziemców”, t. 29, p. 31–52.
- Tsai, N., 2023, *Foreign Language Learning Strategies Applied by a Taiwanese Student Learning Polish with Duolingo*, in print.
- Tseng, S.F., 2018, *The Relationship between Learning Strategies and Learning Beliefs in EFL Taiwanese Technical and Vocational College Students*, „International Journal of Liberal Arts and Social Science”, Vol. 6, No. 9, p. 12–26.
- Turula, A., 2016, *What the good (digital) language learner can teach us?*, „Teaching English with Technology”, 16(3), p. 52–73.
- Yeh, C.Y., Wang, Y.H., 2004, *An investigation into vocabulary learning strategies used by senior high school students in Taiwan*, „Taiwan Journal of TESOL”, Vol. 1.2, p. 1–44.
- Zarzycka, G., 2021, *Spotkanie interkulturowe jako zdarzenie komunikacyjne podlegające mediacji*, „Acta Universitatis Lodziensis. Kształcenie Polonistyczne Cudzoziemców”, t. 28, p. 59–74. <https://doi.org/10.18778/0860-6587.28.04>
- Zhou, Y., Wei, M., 2018, *Strategies in technology-enhanced language learning*, „Studies in Second Language Learning and Teaching”, p. 471–405. <https://doi.org/10.14746/ssl.2018.8.2.13>