Changes over time in language learning strategy use by foreign language learners

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Abstract: This study explored the reported changes over time of the use of language learning strategies based on periodic self-reports of undergraduates that studied Spanish as a foreign language for three years. The purpose was to gain a better understanding of how the use of particular strategies evolved and consolidated, or disappeared as students became progressively more proficient in Spanish. By using Oxford's taxonomy (1990) that differentiates and classifies language learning strategies according to their function, and employing a mixed-method approach that combined successive administrations of Oxford's Strategy Inventory of Language Learning (version 5.1) with in-depth interviews, this study found that the most frequently used strategies as reported by students who started as absolute beginners and continued studying Spanish for three consecutive years were metacognitive strategies in the first year, social strategies in the second year and cognitive strategies in the third year. This study analysed and discussed these findings.

Key words

Foreign language learning

Foreign language teaching

Language learning strategies

Spanish as a foreign language

Mixed methods

Longitudinal studies

Introduction

Not much research has been conducted on how students' reported use of language learning strategies (LLS) changes over time as they become progressively more proficient in a foreign language. In order to contribute to the filling of this gap, the question that inspired and led this research study was how does the use of particular language learning strategies evolve and consolidate or disappear as students become progressively more proficient in a foreign language like Spanish?

This was a longitudinal study conducted at the University of Pretoria, in South Africa, in a context where Spanish is taught as a foreign language, not as a second language. This distinction is critical to understand the challenges that students face and the dynamics of their preferences regarding the use of LLS.

Data were collected from undergraduates at the Faculty of Humanities who started studying Spanish as beginners in 2014 and completed three years of study in 2016. This study focused on students who started with no previous knowledge of Spanish. For the majority of them, Spanish was an elective module, but for those registered in the BA Languages programme, Spanish was a compulsory module.

A multiphase mixed method design (Creswell and Plano Clark, 2011:71) that encompassed five phases was used to collect and analyse the data. Each phase consisted of a quantitative strand in which Oxford's Strategy Inventory of Language Learning (SILL) was administered followed by a qualitative strand in which follow-up interviews were conducted.

The data collection and analysis followed the order in which the research question was investigated in the first, second and third year. The reason for this was that it allowed to draw together all the relevant data for the exact issue of concern, helped to preserve the coherence of the material, and provided a collective answer to the research question (Cohen et al., 2007:468).
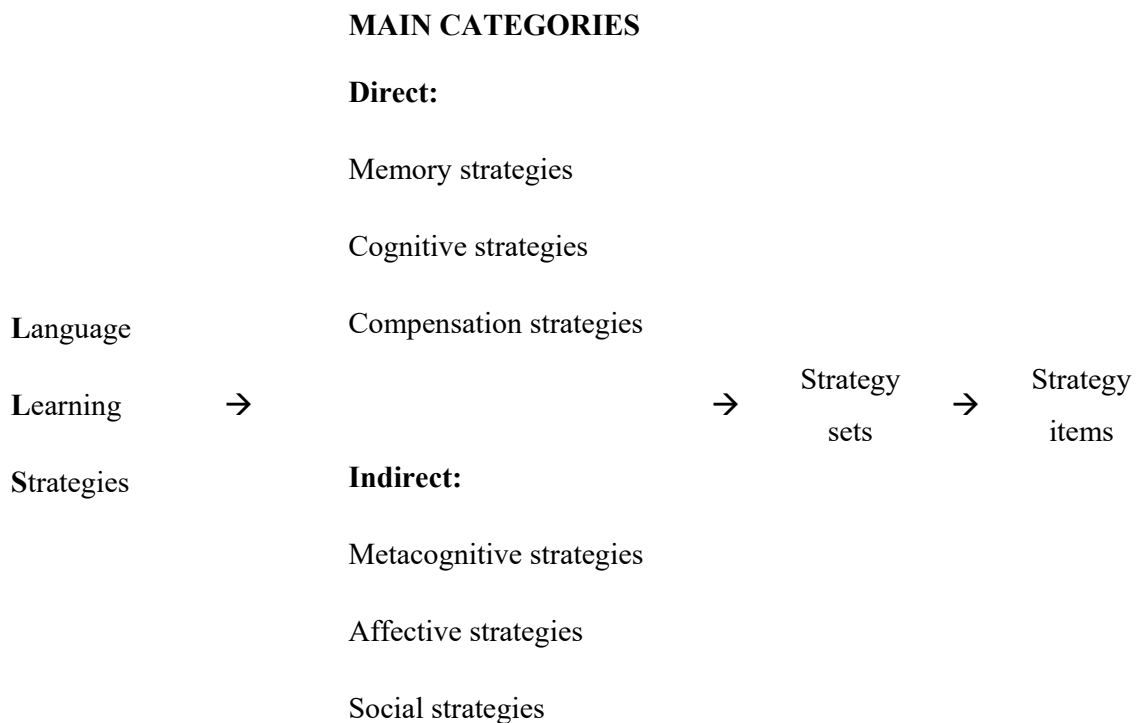
This study followed up on a previous study, which investigated the profile of first-year students learning Spanish at the University of Pretoria, and focused on their self-reported use of LLS and the factors affecting their choices (Lancho Perea, 2019).

Language learning strategies and Oxford's taxonomy

The working definition of language learning strategies that was used to conduct this research was the one that key leading scholars agreed upon and is defined as "the steps or actions that learners consciously take to improve and regulate their own language learning." (Oxford

et al., 2014:11). An important feature of this definition is that it draws attention to what students do as opposed to focusing on what lecturers do.

The study used Oxford's taxonomy (Oxford, 1990) that classifies LLS according to their function. This classification is still widely used and very influential in research on language learning strategies because it is comprehensive and detailed (Khadka, 2020:68, Fithriyah and Yusuf, 2019:312). It differentiates between direct strategies that are directly involved with the language being learnt and require mental processing, and indirect strategies that are used to provide support and manage the learning process without directly involving the language being learnt (Oxford, 1990:37,135). Figure 1 shows how strategies are classified.

MAIN CATEGORIES

Direct:

Memory strategies

Cognitive strategies

Language   Compensation strategies

Learning   →   →   Strategy   →   Strategy
                                                                     sets   items

Strategies   **Indirect:**

Metacognitive strategies

Affective strategies

Social strategies

Figure 1: Oxford's Taxonomy

Source: Oxford (1990:16)

The category of memory strategies is the first direct strategy cluster with highly specific functions, such as, storing new information and then retrieving it when needed for communication (Oxford, 1990:38-40). Memory strategies can be further subdivided into four strategy sets, namely: strategies that are used to create mental linkages with the intention to make the material easier to remember; strategies that make use of images and sounds to trigger the remembering process; strategies that foster reviewing with the intention of

increasing the chances of remembering; and strategies that employ physical actions aimed at associating kinaesthetic actions with meaning (Oxford, 1990:39).

The category of cognitive strategies is the second direct strategy cluster with the common function of manipulating and transforming the language being learnt (Oxford, 1990:43). They can be further subdivided in four sets, namely: strategies that are used to practise; strategies that are used to receive (decode) and send (encode) messages; strategies that help to analyse and reason; and strategies that help to create structure for input and output, which are essential for both comprehension and production (Oxford, 1990:43-47).

The category of compensation strategies is the third direct strategy cluster that learners use to comprehend or produce texts despite their linguistic limitations and insufficient repertoire of grammar rules and vocabulary (Oxford, 1990:47). Compensation strategies can be further subdivided in two sets, namely: strategies that learners use to guess intelligently when listening or reading; and strategies that are used to overcome limitations when speaking or writing. To guess meaning intelligently learners need to interpret a wide variety of linguistic and non-linguistic clues (Oxford, 1990:47-51).

The category of metacognitive strategies is the first indirect strategy cluster and involves not only the knowledge of one's own cognitive processes, but also the ability to control them (White, 1999:38, Lewalter, 2003:179). These strategies help learners to regulate their own cognition and allow them to manage their own learning process (Oxford, 1990:136). They can be further subdivided into three sets: strategies aimed at focusing and centring; strategies aimed at arranging and planning learning; and strategies aimed at evaluating and self-monitoring one's own learning process (Oxford, 1990:137-138).

The category of affective strategies is the second indirect strategy cluster and involves the motivation, attitude, emotions and values that influence language learning. According to Oxford (1990:140), "the affective side of the learner is probably one of the biggest influences on language learning success or failure". These strategies can be further subdivided into three sets: strategies for encouraging oneself; strategies for lowering anxiety; and strategies for measuring emotional temperature (Oxford, 1990:141).

The category of social strategies is the third indirect strategy cluster and highlights the importance of social interactions as learning a language necessarily involves other people (Oxford, 1990:144). Social strategies can be further subdivided into three sets, namely: strategies that involve asking questions for clarification, verification or correction; strategies

that involve different levels of cooperation with others; and strategies that consider others' thoughts and feelings as well as their cultural understanding (Oxford, 1990:144-146).

The participants of the study

The study started with 61 first-year students who came from different academic programmes at the Faculty of Humanities; it then continued with 16 students in the second year and ended with seven students in the third year. The decrease in the number of registrations in Spanish from the first to the second year was linked to the fact that the majority (86%) reported that they were studying it as an elective module and therefore they were not required by their academic programmes to continue studying it until the third year. According to them, their main goal was to earn the required number of first-year credits and not to become proficient in the language. However, the data also showed that in particular cases the motivation to become proficient in the language, and not what was necessarily required by their specific academic programmes, had a significant influence on the students' long-term commitment to study Spanish until the third year. As for the decrease in the throughput from the second to the third year, it was noted that students who stopped studying were not necessarily low achievers (see Table 1), they stopped studying because they preferred to focus on the completion of their first degree.

Table 1: Foreign language achievement vs intention to carry on with studies in Spanish
Source: General questionnaire

|	N	Mean	Std. Deviation
Second-year students who continued to the third year	7	77.57	8.541
Second-year students who did not continue	9	78.33	2.291

Methodology

In order to identify and explain how the use of particular language learning strategies evolved and consolidated or disappeared, as students became progressively more proficient in Spanish, quantitative techniques were used in tandem with qualitative techniques to collect and analyse the data. This decision was taken because "one tradition may usefully address the limitations of the other" (Barbour, 2014:206) and can yield a better understanding of the matter being investigated, which either approach alone could not provide (Mertens, 2010:16). Hence, a mixed methods research design was considered appropriate because it utilises the strengths of both qualitative and quantitative approaches

(Creswell, 2009:203), and provides a more complete picture of the phenomenon being studied (Barbour, 2014:206).

Quantitative data were systematically gathered by the administration of Oxford's SILL (Version 5.1) (Oxford, 1990:283-289), which was administered five times during a three-year period. There was an interval of approximately six months between each administration.

Qualitative data were gathered by in-depth interviews which provided rich information on the when, the how, the how often, the why, and under what circumstances LLS were used. These interviews also collected information on the factors associated with students' self-reports of low and high frequency of particular strategy use, and on the factors associated with both positive and negative significant differences of self-reported frequency of strategy use for particular strategies across different administrations of Oxford's SILL.
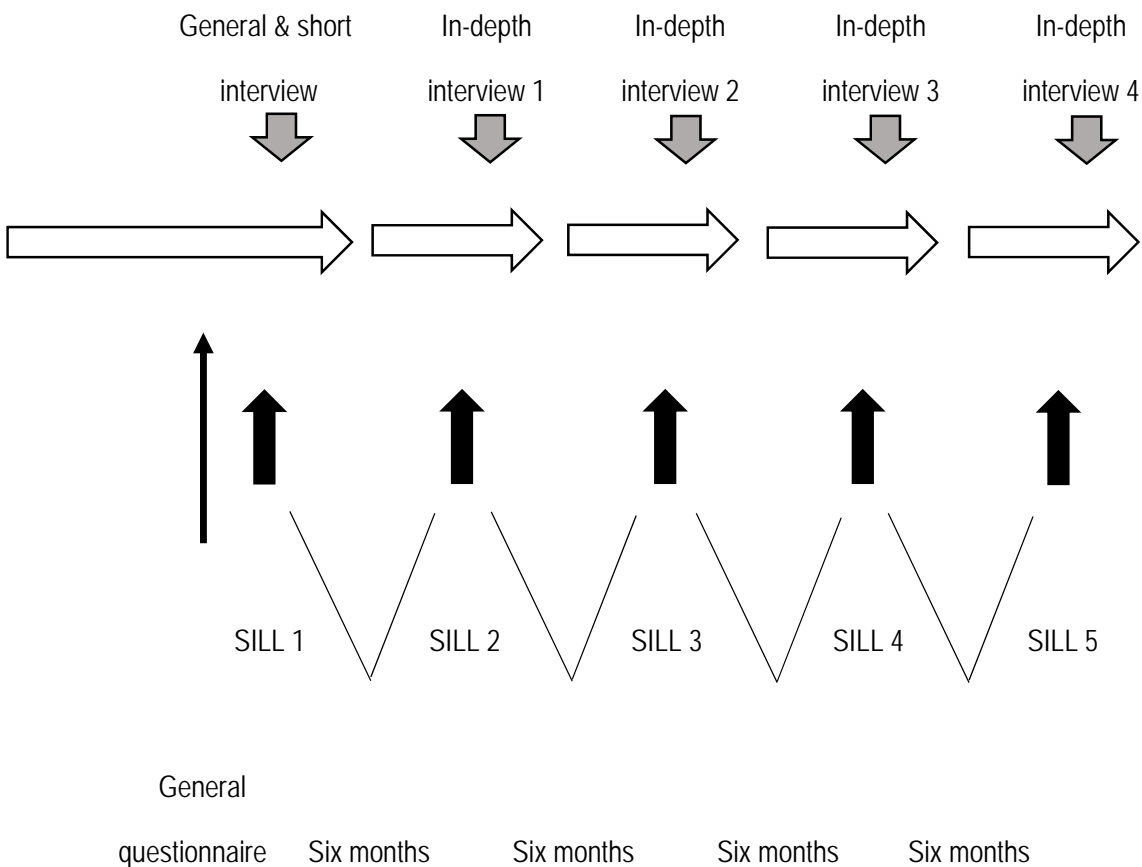
Figure 2: Data collection techniques used in this study

Source: Own

The diagram (Figure 2) shows the two types of data collection techniques that were systematically used to collect quantitative and qualitative data.

The first long white arrow on the left represents the year course for beginners, the subsequent four arrows represent the semester courses in second and third year respectively. The vertical grey arrows pointing down represent the qualitative data collection techniques, while the opposite black arrows pointing up represent the quantitative data collection techniques.

Data generated by the administration of Oxford's SILL (Version 5.1) – an 80-item questionnaire that uses Likert-scaled ratings for each strategy item ranging from one to five, with the poles being "never or almost never [used]" and "always or almost always [used]" (Oxford, 1990:283) – was analysed with the Statistical Package for the Social Sciences (SPSS) and used to perform descriptive statistics and statistical analyses.

Due to the reduction of the sample size, statistical analyses were only conducted on the data collected at first-year level (n=61 students). Pearson's and Spearman's coefficients of correlation were calculated to see whether there were statistically significant correlations between each of the six categories of Oxford's SILL and language achievement (Aydoğan and Akbarov, 2014). Analysis of Variance (ANOVA) was also used to examine and determine whether there were any significant differences among learners with regard to strategy use at the overall and category levels, considering a 0.05 level of significance (Khamkhien, 2012:185). Friedman's ANOVA (non-parametric) test helped to determine if there were any significant variations among the three levels of proficiency: beginner, intermediate and upper-intermediate. Levene's test and t-test analyses were also performed to determine if there were significant differences in the overall learning strategy use in relation to previous experience learning a language (Ismail and Al Khatib, 2013:138). The quantitative analyses also included Mann–Whitney U tests to examine the variations of LLS use at strategy category level as well as at strategy item level (Zhou and Intaraprasert, 2014:157). While this study made use of non-parametric statistical tests, the researcher noticed that in some cases the results of parametric statistical tests and their non-parametric equivalents were small enough to be negligible.

Due to the decrease in the number of students of the researched group from the first to the third year, descriptive statistical analyses were conducted only at first- and second-year level. Charts and tables for each strategy category as well as for some of the strategy items were generated considering level of proficiency, previous experience learning a foreign language (FL) and other related variables. They showed minimal and maximal values, arithmetic means and standard deviations.

Data originating from the in-depth interviews were analysed by establishing units of analysis and grouping the units into categories. Links and relationships were sought and established between emerging categories to make speculative inferences and generate theoretical statements derived from the data (Cohen et al., 2007:183-185, Sampieri et al., 2014:418).

Qualitative data (text) were collected by conducting a general interview and four in-depth interviews. All interviews were recorded using an electronic voice-recording device. Interviews were then transcribed for analysis purposes. The data generated by the first general interview in tandem with the data collected with the general questionnaire were used to construct the profiles of the students and to examine their reasons or motivations to study Spanish. The data generated by the subsequent in-depth interviews were qualitatively analysed according to the guidelines presented by Cohen (2007:183-185) and Sampieri et al. (2014:418).

The largest and most statistically significant differences observed in the Likert-scale self-ratings between two consecutive administrations of Oxford's SILL were monitored to find emerging units of analysis. These units of analysis were grouped according to the six categories of Oxford's taxonomy and carefully analysed against the development of the four language skills and the acquisition of grammar and vocabulary. The way of organising and presenting the data analyses as well as the findings and discussion follows the order in which the research question was answered at first-, second- and third-year level.

Main findings and discussion

At first-year level, compensation and metacognitive strategies were the reported strategy categories most frequently used (Lancho Perea, 2019:93). However, between these two categories, the category of metacognitive strategies was the one with the highest number of specific strategy items reported as highly frequently used (Lancho Perea, 2019:93). As for the types of metacognitive strategy items, students reported that they were trying to identify the purpose of the activities; learning from their mistakes; concentrating on what they heard; paying attention to key language aspects; preparing themselves for specific language tasks; setting achievable goals; arranging their physical environment to promote learning; organising their language notes; identifying and finding out the reasons for their language errors; and evaluating their general progress (Oxford, 1990:135-138).

On average, students who passed the course for beginners reported a higher frequency of strategy use than students who failed (Lancho Perea, 2019:93). A correlation analysis conducted between high achievers and the rest showed a statistically significant positive

correlation between the reported use of metacognitive strategies and the final grades of the course for beginners, which suggests that the use of metacognitive strategies could have been one of the factors that helped students achieve these higher grades (Lancho Perea, 2019:98). In 1996, Dreyer and Oxford (1996:71) also reported a similar finding. They found that among Afrikaans students, the reported use of metacognitive strategies correlated with proficiency in English.

The analysis also showed that those who continued studying Spanish reported using metacognitive strategies significantly more than those who did not continue (Lancho Perea, 2019:97). This suggests that perhaps their long-term commitment to learning Spanish led them to develop greater awareness of their learning and cognitive processes; engage at a deeper level with the learning tasks; and employ strategies to plan, monitor and evaluate their own learning (Lancho Perea, 2019:97).

A clear distinction between those who continued studying Spanish and those who only studied for one year was also noticed. Those who continued studying Spanish reported that during their study time at home, "they were rewriting the notes they had taken in class; listening to radio over the Internet; singing songs (with lyrics) in Spanish; watching movies with subtitles in Spanish; reading Spanish newspapers on the Internet; setting their cell phones to Spanish and sending messages to each other or more proficient Spanish speakers in order to immerse themselves in the language and counterbalance their lack of exposure to Spanish" (Lancho Perea, 2019:96-97). This showed that they were proactive and seemed to be more skilful in planning and exerting control over their language learning process. On the contrary, those who did not continue studying Spanish consistently reported that they were mainly focusing their work on the activities suggested in the textbook and not doing much to engage in activities related to the language outside the classroom (Lancho Perea, 2019:97).

At second-year level, the whole group of students reported a higher overall strategy use compared to first-year level. However, the strategy category that was reported with the highest increase was the category of social strategies (see Table 2).

Table 2: Average reported frequency use of strategies at the end of first and second year
Source: Oxford's SILL in 2014 and 2015

All first-year students: First year 2nd semester			All second-year students: Second year 2nd semester		
Strategies	**Mean**	**Std. Dev.**	**Strategies**	**Mean**	**Std. Dev.**
Compensation	3.596	0.45	Cognitive	3.7581	0.38
Metacognitive	3.512	0.59	Compensation	3.7369	0.38
Cognitive	3.447	0.52	Metacognitive	3.6913	0.52
Social	**3.308**	**0.67**	**Social**	**3.6325**	**0.69**
Memory	3.012	0.57	Affective	3.2056	0.65
Affective	2.918	0.69	Memory	3.1925	0.54
OVERALL	**3.299**	**0.58**	**OVERALL**	**3.5975**	**0.40**

Table 3: Average reported frequency use of strategies in the second year within the group of students that continued studying Spanish until the third year
Source: Oxford's SILL in 2015

Only second-year students who continued until third year: Second year 1st semester			Only second-year students who continued until third year: Second year 2nd semester		
Strategies	**Mean**	**Std. Dev.**	**Strategies**	**Mean**	**Std. Dev.**
Social	**3.79**	**0.51**	**Social**	**3.99**	**0.55**
Cognitive	3.65	0.4	Cognitive	3.85	0.49
Compensation	3.64	0.54	Compensation	3.79	0.43
Metacognitive	3.62	0.43	Metacognitive	3.76	0.53
Affective	3.12	0.59	Affective	3.29	0.72
Memory	3.07	0.45	Memory	3.23	0.58
OVERALL	**3.53**	**0.37**	**OVERALL**	**3.7**	**0.49**

Although the reported overall strategy use of social strategies was ranked fourth among the whole group of students in the second year, it was interesting to note that within the group of students who continued studying Spanish until the third year, social strategies were the highest reported used category in the second year (see Table 3). These students reported

that their solitary activities of studying at home or at the library were not enough anymore to continue developing their language skills. They realised that they needed to include interactive activities involving more capable peers, proficient speakers or native speakers of Spanish.

Data from the interviews also showed that the second year of study was the year in which "practice groups" emerged as an alternative way to counterbalance the lack of opportunities to practise the language outside the classroom. Those who continued studying Spanish until the third year started to meet with their own classmates to practise the language on a regular basis. These practice groups emerged as they became aware that a foreign language like Spanish was not supposed to be studied in isolation (García Santa-Cecilia, 1996:6, Richards and Rodgers, 2014:10-11) and that they needed the support of more capable peers to take their language proficiency to a higher level. More capable students can help their less capable peers by "scaffolding" them within the Zone of Proximal Development (ZPD) (Morrone et al., 2004:20). Vygotsky (1980:86) defines the ZPD as the "distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers." In other words, it is the "distance" between what a learner can do with the help of others and what a learner can do without help. Furthermore, Vygotsky claims that what a learner is able to do with assistance at a particular moment may indicate his/her future unassisted performance (Shabani, 2016:3).

The role of more capable peers as mediators to foster language learning has already been studied in the second and foreign language literature (Herazo Rivera and Sagre Barboza, 2016:151). Krashen's input hypothesis, which states that humans acquire language by receiving "comprehensible input" that contains $i + 1$ structures that are a bit beyond their current level of competence (Krashen in Dunn and Lantolf, 1998:415), can be used to understand certain aspects of what happens within these practice groups. Taking into consideration that more capable peers can produce $i + 1$ input, it seems plausible to think that interactions within the practice groups can lead to language learning that focuses on the meaning and not necessarily on the form of the message (Krashen, 1982:22).

The data analysis also showed differences with respect to the reported use of compensation strategies between high achievers and the rest of the students. High achievers reported using less compensation strategies than the rest of the students. Data gathered by the interviews helped to further explain these findings and showed that some students felt that compensation strategies in oral communication or written production should rather be

avoided. They felt this way because their interaction was primarily with the lecturer and their main concern (when speaking or writing) was not necessarily conveying meaning with fluency, but rather correctness and accuracy in order to attain the highest possible marks. However, for those students who were not only interacting with the lecturer but also with more capable peers, their main concern was conveying meaning with fluency so they were prepared to take risks.

At third-year level, the reported strategy category most frequently used by the remaining group of participants was cognitive strategies, and the least used, memory strategies. Students reported using strategies that activated cognitive processes primarily related to the use of the language more frequently than strategies aimed at understanding and learning the new language. For instance, in the first year, students reported that their most frequently used strategies were using reference materials to understand the new language and looking for similarities and contrasts to improve their learning of the language. At third-year level, students reported that they were using the new language to take notes in class, imitating the way native speakers talked, and skimming a text to get the main idea – all strategies that focus on using the language.

However, contrary to what was expected, the data analysis showed that the reported use of the majority of the strategy categories in the third year was lower at the end than at the beginning of the year. Taking into account that at the end of the third year these students can still be considered to be at an upper intermediate proficiency level, this finding was consistent with previous research that found that students in the intermediate level reported a higher frequency of strategy use than students in the beginner or advanced levels (Hong-Nam and Leavell, 2006:399). Only the reported frequency use of compensation strategies and, in particular, social strategies were consistently higher. This lower reported use of LLS showed that it was perhaps possible that students were reporting lower use of certain strategies because they had started to use them automatically or subconsciously.

Nevertheless, the realisation that language learning was not supposed to happen in isolation, coupled with a growing perception of the need to practise the language with more capable peers, became widespread among the whole group in the third year. Thus, despite the lack of opportunities available to practise the language outside the classroom, the majority of students reported that language learning had fully become a social experience in the third year. Practice groups emerged as an alternative way to use the language together to compensate for the scarcity of proficient or native Spanish speakers to practise with.

Third-year students also perceived themselves as eager – and to some extent more confident – to engage in activities that involved more direct manipulation and transformation of the target language than in the previous years. They reported that their recently acquired level of proficiency allowed them to engage more prominently with strategies related to the ways of using the language than with strategies more related to the ways of learning the language. Thus, a distinctive characteristic seemed to be that in the previous years they were primarily interested in how to learn the language, but in the third year their main interest was how to use the language.

Third-year students also reported a decreasing frequency of use of memory strategies (with minimum values of 2.30 in the first semester and minimum values of 2.00 in the second semester). Memory strategies range from rote learning actions, to listing and grouping, using associations of various kinds, and reviewing at different intervals (Cohen and Aphek, 1980:222, Oxford, 1990:38-43, Ellis, 2008:715). The lower reported frequency of use of memory strategies did not mean that they were memorising less words, but they were deducing the meaning of words by making use of compensation strategies (with maximum values of 4.50 in the first semester and maximum values of 4.60 in the second semester) which, instead of them looking up every unfamiliar word, helped them to guess the meaning by using contextual clues.

Students' perception of the utility of some compensation strategies also changed over time. Initially, students reported that it looked irrational and pointless for them to make up new words, but at a later stage they reported that it was perhaps worthwhile to take that risk in order to communicate fluently and effectively when needed. Similarly, as students became more proficient in the target language, they reported a consistent increase in the implementation of strategies aimed at improving their reading skills, as well as a steady decrease in the implementation of strategies related to consulting reference materials (which activates cognitive processes that involve comprehending what is being read by forming connections between unknown content and existing knowledge). This was something that was expected as the ongoing expansion of vocabulary and knowledge of grammatical rules allowed them to read more fluently and confidently than in previous years.

Conclusion and recommendations

Students' approaches to studying Spanish seem to be unintentionally reinforced by lecturers' who solely focus on what they have to teach in the classroom. By doing so, those lecturers are neither encouraging their students to learn how to learn (metacognition), nor helping them to progressively take more responsibility for their learning process. It is

therefore recommended that the focus should not only be placed on the lecturers' efficiency in teaching, but also on helping students to understand what it takes to learn and regulate their learning process.

If students are encouraged to plan, monitor and evaluate their own learning, and provided with suggestions concerning how they can practice the language outside the classroom, it seems plausible to believe that their learning experience will be more enjoyable and successful. This will improve the likelihood of increasing the throughput rate of Spanish students to the final year.

In line with this, it is suggested that lecturers as well as book publishers should recommend a variety of activities for students to engage with the language outside the classroom. These recommendations should be tailored according to the findings in this research, and the suggested activities should encourage the use of metacognitive strategies in the first year, social strategies in the second year, and cognitive strategies in the third year of study.

If the intention is to conduct further research studies on the changes over time in the reported use of LLS, researchers need to take into consideration that fluctuations in strategy use are not completely and sufficiently visible at the level of strategy categories. For example, when analysing how the use of particular strategies emerged, evolved and consolidated or disappeared, this study found that significant variations of strategy use at item level were not evident when the average for the whole category was calculated. If the analyses had only been conducted at the category level using the average for the whole category, rich information would have been lost. Therefore, it is suggested that research of this nature may always consider using analyses at both strategy category and strategy item level.

Finally, considering the limitations of single strand studies (either quantitative or qualitative), it is hereby acknowledged that the mixed methods approach proved to be a very useful way to conduct this type of research. Mixing Oxford's SILL (a quantitative technique) in tandem with interviews (a qualitative technique) provided a tool for confirming findings or getting a deeper understanding, especially when results from previous studies seemed inconsistent (Leedy and Ormrod, 2012:259). Data from the interviews allowed the researcher to interpret the quantitative results and delve into what, how and why strategies were used (Ivankova, 2015:3-4), and in doing so, provided the researcher with a more complete picture of the matter being researched (Barbour, 2014:206). It is therefore recommended that a mixed methods approach may be used in research such as this conducted over a period of time.

Limitations

Though the sample size dropped from 61 to seven participants for reasons not related to the researcher's interventions or the conduction of the study, it is hereby acknowledged that if the majority of participants had remained in the study, it is likely that the outcome would have been different. For the above mentioned reason, findings may not be generalisable due to the small size of the researched group in the second and the third year.

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