A diachronic analysis of explicit definitions and implicit conceptualizations of language learning strategies

Nathan Thomas [a,*], Neil Evan Jon Anthony Bowen [b], Heath Rose [c]

[a] *UCL Institute of Education, 20 Bedford Way, London, WC1H 0AL, United Kingdom*
[b] *Thammasat University, Khlong Luang, Pathum Thani, 12121, Thailand*
[c] *University of Oxford, 15 Norham Gardens, Oxford, OX2 6PY, United Kingdom*

A B S T R A C T

The field of language learning strategies (LLS) has grown significantly, experiencing many twists and turns over the years. Consequently, this study takes stock of, and reports on, definitional and conceptual changes, because how we define a concept can greatly affect its impact on teaching and research. We collected 461 journal articles from prominent databases and divided them into three time periods marked by major developments in the field: 1975–1990, 1991–2005, and 2006–2019. We then used content analysis to categorize, code, and explore explicit definitions found in the articles and various corpus-based techniques on the full texts to investigate implicit conceptualizations of LLS within and across these time periods. The findings indicate that elements of self-directedness (e.g., self-regulation, agency, and autonomy) are increasingly prevalent in researchers' conceptualizations over time. The findings also highlight trends in language related to self-directedness, especially in the way strategies are portrayed to be operationalized by learners and in their intended purpose(s). Based on our findings, we argue for a change in thinking—from the ideal to the actual—in LLS conceptualizations and call for reconceptualized roles of teachers and students that are more representative of and compatible with instructed language learning contexts.

1. Introduction

Rubin's (1975) and Stern's (1975) early articles on "good" language learners are often credited with kick-starting what is now the burgeoning field of language learning strategies (LLS). These papers garnered interest from learners and practitioners alike, as they were seen to enlighten actions that could make learning more effective and efficient. Researchers also took note. With every passing year, studies have added to this growing body of work, especially in the journal *System* (Lei & Liu, 2019; Zhang et al., 2019). Numerous authors have discussed issues regarding terminology, definitions, and classifications, the teachability and effectiveness of strategies, as well as the theoretical underpinnings and research methodologies that have been used to measure strategies (e.g., Cohen & Macaro, 2007; Gao, 2010; Grenfell & Harris, 2017; Griffiths, 2018; Hajar, 2019; Oxford, 2017; Rose et al., 2018; Zhang, 2003). And while criticism has been leveled by those outside the field (e.g., Bialystok, 1983; Dörnyei & Skehan, 2003; Ellis, 1994), a steady stream of discourse from field insiders has also, perhaps more consistently, perpetuated discussions over critical issues (e.g., Cohen, 2007; Gao, 2007; Gu, 2012; Macaro, 2006; Rose, 2012), and rightfully so: the way we define a concept can greatly affect how we translate its ideas

---

* Corresponding author.
  E-mail addresses: nathan.thomas.19@ucl.ac.uk (N. Thomas), nbowen@staff.tu.ac.th (N.E.J.A. Bowen), heath.rose@education.ox.ac.uk (H. Rose).

into practice—both in research and in teaching.

Rubin's (1975) original definition of strategies as "the techniques or devices which a learner may use to acquire knowledge" (p. 43) is sometimes criticized as being too broad and overly simplistic, but it is also relatively easy for practitioners to understand. It represents the nature of the "good language learner" work being published at that time (see also Naiman et al., 1978; Stern, 1975), which sought to provide practical, pedagogical implications for teachers. More recently, a number of conceptualizations and subsequent definitions appear to have left instructed settings behind by strongly aligning with concepts such as self-regulation, agency, and autonomy, which we refer to collectively as *self-directedness*. A potential casualty of this movement at the theoretical-conceptual level has been observed as sidelining the important role that teachers and classrooms can play in developing language learners into successful strategy users (Thomas et al., 2021).

Given the turbulent nature of LLS research over time and ongoing debates over their conceptualizations (e.g., Dörnyei, 2005; Macaro, 2006; Oxford, 2017), we see a diachronic analysis of both definitions and full texts as critical to understand where the field has come from, and where it is going. Historical reviews of this kind can make powerful contributions to research by enabling us to take stock of existing work and chart future directions (Hiver et al., 2021).

Beginning with the earliest studies in the 1970s, this paper examines explicit definitions to determine how researchers distinguish LLS from other activities and how the roles of teachers and students are demarcated. A secondary aim is to identify, via corpus-based techniques, implicit conceptualizations that may not be observable in, or may not align with, explicit definitions provided by authors. A final aim is to explore how the evolution of the field has influenced how the reported roles of teachers and students are portrayed in research. We conclude with suggestions on how LLS conceptualizations can be repositioned to move the field from ideal notions to actual representations, and in doing so, become more "appliable" in formal education settings.

1.1. Literature review

We delineate the literature into three time periods that correspond with major developments in the field: 1) 1975–1990—the start of strategy research (e.g., Rubin, 1975; Stern, 1975); 2) 1991–2005—a period greatly influenced by two major taxonomies (see Oxford, 1990; O'Malley & Chamot, 1990); and 3) 2006–2019—"the second wind" of strategy research following Dörnyei's (2005) critique.

1.2. The start of strategy research: 1975–1990

Although notions of LLS existed within the cognitive and behavioral paradigms of second language acquisition (SLA), it was not until the mid-1970s when LLS as we know them today became an established research field. Concerned with what causes learners to have more or less success in SLA, Rubin (1975) called for researchers to investigate the strategies that "good" language learners deploy. Using her own informal observations of and discussions with teachers and language learners, she provided a general list of seven strategies that "good" learners use. This list served as a point of departure for other researchers and was later refined.

Working contemporaneously with his own list, Stern (1975) proposed ten strategies based on his experience as a teacher. This list was continued more systematically in Naiman et al.'s (1978), *The Good Language Learner*, where a battery of data collection methods was used to investigate adult learners and high school students.

Other studies around this time can be placed into two main categories: (a) practitioner research (e.g., Hosenfeld, 1976, 1977); and (b) research straddling the cognitive SLA and practitioner gap (e.g., Cohen & Robbins, 1976). Cognitive theories explaining language learning were flourishing at the time, and it was apparent that a theory would be needed that could link strategic behavior and language processing/learning, a notion that Stern (1975) called for when he wrote: "the strategies of the good language learner must fit into a theory of language learning" (p. 305). With theory comes conceptual developments to align with such advances.

Bialystok (1978) proposed a theoretical model that could account for processes and strategies separately, distinguishing it from earlier models where the term "strategies" surrounding language learning and use were included. Such distinctions—strategies versus processes and learning strategies versus communication strategies—seemed clear enough, but coupled with seemingly analogous terms that were being used interchangeably by researchers, there was—and continues to be—confusion as to what constitutes a strategy.

Studies in this era, however, were consistent in describing the role of teachers in classroom settings. Authors explicitly mentioned that teachers could not dismiss the pedagogical implications of strategy research, since "the classroom teacher does have the explicit objective of teaching the target language to the learner" (Cohen & Robbins, 1976, p. 46). Stern (1975) went as far as comparing the teacher–student relationship to that of a "linguistic parent" and "toddler" (p. 309).

1.3. A boom in strategy research: 1991–2005

Two major classification systems led to a boom in strategy research in the late 1980s and 1990s. Oxford's (1990) system involved six categories—memory, cognitive, compensation, metacognitive, affective, and social—which she claimed was more comprehensive, detailed, and systematic than previous classifications. However, such strict groupings without an explicated theoretical foundation would later be the point of much criticism. Similarly, O'Malley and Chamot (1990) delineated strategies into metacognitive, cognitive, and social/affective. Their work was underpinned by Anderson's (1985) information processing theory from cognitive psychology. These two influential pieces of work, alongside others at the time (see Cohen, 1990; Wenden, 1991) greatly influenced the nature of much of the strategy research that would follow.

Strategy training was a major part of Oxford's (1990) work, with practical activities and exercises for students as well as discussion

questions for teachers in each chapter. O'Malley and Chamot (1990) also promoted the Cognitive Academic Language Learning Approach (CALLA), which emphasized explicit strategy instruction. In their own review of the literature of this time, Grenfell and Macaro (2007) noted that the popularity of LLS research reflected its potential impact, and it "was clearly useful to both teachers and learners" (p. 14). The teacher was seen as important in directly teaching and training students to be successful strategy users. Indeed, systematic reviews and meta-analyses from Hassan et al. (2005), Plonsky (2011, 2019) and Ardasheva et al. (2017) showed that strategy instruction could be effective.

Cohen's (1998) stance was that the purpose of strategic learning was to remove the responsibility from the teacher and place it on the learner. Successful learners were those who selected appropriate strategies and operationalized them in effective combinations. Grenfell and Harris (1999) proposed a similar conceptualization, emphasizing the importance of personal decision-making. This view of successful learners as having agency and the ability to regulate their own learning was perpetuated by authors such as Kawai et al. (2000), who felt that self-regulation was necessary for successful language learning, and Macaro (2001), who believed that the role of the teacher should be to encourage learners to "help themselves" (p. 3). Dörnyei and Skehan (2003) seemed to embrace this view, taking into account other factors influencing strategy use (e.g., motivation) and highlighting definitional and conceptual issues. They noted that "a significant change in L2 strategy research paradigms appears inevitable" (p. 610) and, that in the field of educational psychology, most researchers had left the term "strategy" behind, focusing instead on self-regulation.

1.4. The second wind of strategy research: 2006–2019

The field of LLS has always been vulnerable to criticism. However, Dörnyei's (2005) critique was thought by many to be a death blow to the field, when its proposal to replace the concept of strategies with self-regulation began to gather steam. Tseng et al. (2006) proposed that researchers focus on the driving factors of strategy use. They argued that:

> the most important aspect of strategic learning is not the exact nature of the specific techniques that students employ but rather the fact that they choose to exert creative effort in trying to improve their own learning … the essential aspect of empowering learners is to set into motion the self-regulatory process rather than to offer the instruction of a set of strategies. (Tseng et al., 2006, p. 95)

This view minimized the role of specific strategy instruction and research, which focused on identifying and defining effective strategies for learning, and redirected focus solely on identifying learners' underlying capacity for strategy use.

Recognizing the importance of strategies and strategy instruction, Macaro's (2006) argument that same year was not for shifting focus to self-regulation, but for more theoretical rigor in strategy conceptualizations. Macaro felt that strategy research was indeed a worthwhile endeavor, despite the messiness of the concept. He offered a theoretical framework for LLS situated in cognitive psychology and information processing theory that distinguished strategies from other related concepts and proposed a list of essential features to be used as strategy descriptors.

Around the same time, Gao (2007) asked whether strategy research had come to an end, before concluding that learning strategies and self-regulation could been seen as complementary (see also Grenfell & Macaro, 2007). Cohen and Macaro's (2007) edited volume, meanwhile, served as a testament to the field's health and vigor. Gu (2007) referred to it as "a link between the past and the future, marking the end of an exploratory era and ushering in a new era of theoretical depth, empirical rigor, and practical utility" (p. vii). Such vigor resulted in the field broadening, with more focus on the underlying processes of strategic behavior (e.g., motivation, self-regulation, and autonomy).

Dörnyei and Ryan (2015) referred to this time of rapid development as "the second wind of strategy research" (p. 148) while acknowledging that many issues, such as the lack of a coherent definition "at the rigorous scientific level" (p. 144), were still prevalent in the literature. Oxford's (2011) expanded view, as seen in her Strategic Self-Regulation (S2R) Model, was seen by critics such as Dörnyei and Ryan (2015) as raising more questions than answers, showing that there is work to be done. However, conceptual concerns appear to have been pushed aside by many researchers, with few recent publications engaging in little more than a brief mention of existing issues (cf. Griffiths, 2018; Hajar, 2019; Oxford, 2017; Oxford & Amerstorfer, 2018). It seems as though most researchers feel an obligation to mention fuzziness in terms of explicit definitions, conceptualizations, and theory, yet few have the energy or patience to continue the seemingly unending discussion.

1.5. Previous efforts for definitional and conceptual understanding

Though not an easy task, some researchers have attempted to bring "order out of chaos" (Oxford, 2017, p. 7) by describing essential (e.g., Macaro, 2006) or prototypical (e.g., Gu, 2012) features of strategies in lieu of a rigid definition. Others have taken more synthetic approaches. For example, Cohen (2007) surveyed 19 strategy experts following a series of face-to-face meetings "to find out how they conceptualize and use the terminology in language learner strategy research and practice" (p. 29). After noting that "there is no popularly-accepted definition" (p. 31), he reported several divergent perspectives that surfaced.

Oxford (2017) took a text-based, content-analytic approach, applying open and axial coding to 33 definitions she extracted from published work. Largely based on her analysis, she proposed a new definition and invited other researchers to participate in the conversation. Thomas and Rose (2019) accepted the invitation shortly thereafter by highlighting differences in the nature of definitions across time. Namely, they pointed to the influx of definitions post-1997 in Oxford's (2017) sample that featured elements of self-directedness (e.g., self-selection/choice of strategies as a defining characteristic). They argued that such elements could be seen as part of one form of strategic learning (i.e., self-regulated learning) but that alternative forms of learning (e.g., co-/other-regulated

learning) needed to be accounted for in order to best represent strategic learning that takes place in formal education settings.

Thomas et al. (2021) took the discussion one step further by compiling the 33 full texts that Oxford (2017) extracted definitions from into two corpora: pre-1997 and post-1997. They conducted a corpus-based discourse analysis of the full texts to see if the trends they noticed in explicit definitions were also present in researchers' implicit conceptualizations of strategies. Implicit conceptualizations are defined as the ways in which researchers discuss LLS outside of explicit definitions. Thomas et al.'s (2021) findings generally aligned with what Thomas and Rose (2019) highlighted in their discussion of explicit definitions. However, the increased depth of analysis afforded by incorporating the full texts offered additional fodder to the claim that the perceived roles of teachers and students were shifting in LLS research as—at the theoretical-conceptual level—LLS were becoming increasingly conflated with aspects of self-directedness.

While fruitful in enabling discussion of researchers' implicit conceptualizations, Thomas et al.'s (2021) findings are limited in that their sample of 33 academic sources was ad hoc, incomplete, compiled non-systematically, and, therefore, was a non-representative view of a developing field. Thus, the current study seeks to offer additional, data-driven insights by drastically expanding the sample, offering a more nuanced discussion by creating three corpora instead of two, and analyzing both explicit definitions and implicit conceptualizations in a single study. Moreover, to account for the lack of an explicit definition in many published articles, we place greater emphasis on implicit conceptualizations in the full texts. This approach affords an increased level of scrutiny via the combinatory use of corpus-based techniques and a much larger dataset. Finally, to our knowledge, no other study has systematically traced the chronological trajectory of LLS conceptualizations over time. In doing so, we offer insights into a term that can only emerge from a deeper understanding of its evolution—one that we believe may have been strongly influenced by concepts related to self-directedness. As such, we also explore the reported roles of teachers and students in these conceptualizations. Such an exploration can provide a roadmap for scholars in this area and a sounding board for new theoretical developments.

We use the following research questions as a means to organize and guide our discussion:

1) What explicit definitions of LLS have been adopted and to what extent are concepts related to self-directedness present in these definitions in three major time periods: 1975–1990, 1991–2005, and 2006–2019?
2) To what extent are these concepts present among implicit conceptualizations of LLS in the same time periods?
3) Have the reported roles of teachers and students changed over time? If so, how have they changed?

2. Method

To investigate RQ1, we employed content analysis to identify, code, and quantify explicit definitions in journal articles in the time periods outlined above. For RQ2, we conducted a corpus-based keyword analysis followed by word frequency, collocation, and concordance analyses to examine implicit conceptualizations in full texts. We explored keywords in terms of two emergent categories: 1) general concerns of language teaching and learning and 2) pedagogical concerns of language teaching and learning. To explore RQ3, we qualitatively examine our findings using statistically supported inferencing alongside the aforementioned corpus-based techniques.

2.1. Data collection

We compiled three corpora of published journal articles from 1975 to 1990 (Corpus A), 1991–2005 (Corpus B), and 2006–2019 (Corpus C) from the Web of Science Core Collection[1] and Scopus in July 2019. We focused on these databases as they are the largest indexes of global research content, have industry standard quality assurance, and are used by the majority of academic employers and funding sources to judge research impact.

We systematized our search using the set phrase ["language learn* strateg*"] in order to create a pool of studies that identified with/spoke to the field of LLS and were not just peripherally related. We retrieved 480 documents in Web of Science and 488 documents in Scopus with this phrase in the title, abstract, or keywords. We removed duplicates, articles not written in English (a noted limitation), and those not available online or irrelevant to the topic of L2 language learning. We then used the following additional search string to capture related work that had occurred under different terminology during the nascent period of 1975–1990: ["learning strategies" OR "reading strategies" OR "listening strategies" OR "writing strategies" OR "speaking strategies" + "language"]. This added 21 journal articles to the sample. Corpora details can be seen in Table 1. Although our systematic search in two major databases limited our corpora to articles published in indexed journals, this decision is in sync with similar approaches to historical systematic reviews, such as Hiver et al. (2021) review of 20 years of definitions of engagement in language learning, and Chong's (2019) systematic review of 10 years of written corrective feedback research. And while our search parameters might have introduced a representativeness limitation to our sample by missing potentially relevant monographs, dissertations, or chapters, they nonetheless provided greater transparency and replicability of the systematic search, which are the cornerstones of systematic review methodology (Macaro, 2020).

---

[1] This includes the Science Citation Index Expanded (SCI-EXPANDED), Social Sciences Citation Index (SSCI), Arts & Humanities Citation Index (A&HCI), and Emerging Sources Citation Index (ESCI), among others.

Table 1
Corpora details.

Corpora	Corpus A	Corpus B	Corpus C
Time period	1975–1990	1991–2005	2006–2019
Texts for keyword analysis	44	71	346
Total word tokens	237,459	437,170	2,022,406
Texts for content analysis	44	71	115

Note. The content analysis used all texts in Corpus A and Corpus B and a randomly selected reduced sample from Corpus C. We arranged the texts in Corpus C chronologically by year and then alphabetically by first author (within each year). We then selected every third article for analysis.

2.2. Data preparation

We first compiled a list of definitions for the content analysis. This involved searching each article to locate a definition. When multiple definitions were provided, and there was no indication that one was preferred over the other(s), all definitions were extracted and included for analysis. We then populated an Excel file with each article's identifying information, definition(s), page number(s) where definitions were found, and cited literature (if any).

For the corpus-based analysis, we converted the downloaded articles from PDF files into Word documents. Individual texts in Word were corrected and then saved as individual plain text files. We included the following elements: title, abstract, and main body. We excluded elements such as cover pages, publisher/database information, acknowledgements, and references.

2.3. Data analysis

For the content analysis of explicit definitions, we used a set codes to categorize our data as follows: (a) definition was provided; (b) definition was original (created by the author; no reference provided); (c) definition was a modification/paraphrase of a previous definition; reference provided); or (d) definition was a direct quote (reference and page number provided). Citations (codes c and d) were tallied to determine influential definitions, publications, and researchers over time.

For the corpus-based analysis, we started by generating keyword lists for each of the three corpora using a log-likelihood (LL) keyness statistic (see Pojanapunya & Watson Todd, 2018) in AntConc (Anthony, 2019). Keywords "are words that occur relatively more often in a text or corpus being analyzed than they do in some reference corpus, where the difference in frequency is statistically significant" (McEnery & Hardie, 2012, p. 254). According to Rayson (2008), words with a LL of at least 15.13 are significant at a level of $p < 0.0001$ (the 99.99[th] percentile), meaning these words are incredibly unlikely to appear by chance in the keyword list and are there due to authorial choices. Only words that reached at least this level of significance were considered. Additionally, *key* words were considered as such if they appeared a minimum of twenty times and were ranked within the top 100 keywords in that particular corpus. We compared the respective keyword lists of Corpus A, Corpus B, and Corpus C in the following way: [A v (B + C)], [B v (A + C)], and [C v (A + B)]. To identify changes in each major time period, we compared the corpora in chronological order.

We used the keywords as a starting point for our analyses and also examined each word's general frequency, collocations, and concordance information to ensure our interpretations were grounded in and supported by the data. We considered only collocations with a high significance of co-occurrence. According to Hunston (2002), a Mutual Information (MI) score of ≥ 3 suggests a strong collocate, which we used as a benchmark. We also explored the co-texts and contexts of each keyword of interest using the concordance lines and by examining the full texts when necessary. This ensured that our quantitative analyses were supported by qualitative exemplars and helped to eliminate irrelevant "noise" in our findings.

3. Findings

3.1. Explicit definitions

Only 58% of the articles included in the content analysis provided an explicit definition of LLS. Furthermore, there was a noticeable decrease in the number of researchers providing original definitions and an increase in the number of definitions quoted directly. Table 2 shows the number of articles in each group that provide an explicit definition of LLS.

3.1.1. Influential definitions

No definition stood out as being particularly influential in Corpus A. The most-cited definition was Rigney (1978; $n = 5$)—"steps taken by the learner to aid the acquisition, storage, and retrieval of information" (p. 165)—but four citations come late in the sample and are from the same researcher (Oxford, 1989; Oxford & Crookall, 1989; Oxford et al., 1989; Oxford & Nyikos, 1989). The only other definition cited more than once was from Wenden and Rubin (1987) ($n = 2$)—"any sets of operations, steps, plans, [and] routines used by the learner to facilitate the obtaining, storage, retrieval, and use of information" (p. 19), which—like Rigney (1978)—is decidedly cognitive.

In Corpus B, 21 distinct definitions were used by researchers. The most popular definitions were from Oxford (1990; $n = 12$), Cohen (1998; $n = 4$), Rigney (1978; $n = 3$), and O'Malley and Chamot (1990; $n = 2$). In this period, Oxford's (1990) definition is clearly

Table 2
Number and type of identified definitions in each time period.

	Corpus A (1975–1990)	Corpus B (1990–2005)	Corpus C (2005–2019)
Total # of articles	44	71	115
# with a definition	24/44 (55%)	43/71 (61%)	65/115 (57%)
Original definition	13/24 (54%)	16/43 (37%)	12/65 (18%)
Cited definition	9/24 (38%)	19/43 (44%)	26/65 (40%)
Quoted definition	2/24 (8%)	13/43 (30%)	37/65 (57%)

Note. Some articles in Corpus B and Corpus C provide multiple definitions and/or definitions that span multiple sentences and include both citations and direct quotes; where these sentences seemed complementary (no preference towards one definition or the other), they were counted in both categories, which explains why the percentages do not equal 100%.

influential: "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations" (p. 8). This definition highlights a shift in focus to behaviors and actions of strategies, as well as a widening in scope to include specific goals (i.e., automaticity, enjoyment, effectiveness, and transferability).

In Corpus C, we found 36 distinct definitions, with the top five being Oxford (1990; $n = 17$); O'Malley and Chamot (1990, $n = 10$); Griffiths (2008; $n = 8$); Cohen (1998; $n = 7$); and Oxford (2017; $n = 5$). The most popular definition not present in the previous time period is Griffiths' (2008): "activities *consciously chosen* by learners *for the purpose of regulating* their own language learning" (p. 87, emphasis added).[2] This perspective aligns with Cohen's (1998), as both incorporate the concept of self-selection/choice. Oxford's (2017) recent definition includes elements from other popular definitions across the corpora and has already shown to be highly influential for researchers (e.g., Sasaki et al., 2018).

3.1.2. Elements of self-directedness

Only two definitions in Corpus A have elements that presuppose self-directedness. For Cohen (1986), strategies were mental processes that *learners consciously choose* to use in accomplishing tasks. Oxford's (1989) definition, while not including choice explicitly, does include self-directed purpose, as reflected in learning strategies being "behaviors or actions which learners use to make language learning more successful, *self-directed*, and enjoyable" (Oxford, 1989, p. 235, emphasis added).

With regard to Corpus B (1990–2005), six definitions relate to self-direction as per Oxford (1989, 1990) or include some element of self-directed involvement, and three relate to the element of choice or the self-selection of strategies as per Cohen (1986, 1998). Hence, we see a steady increase in explicit definitions containing elements of self-directedness. This is further reflected in Corpus C as elements of choice ($n = 14$) and being or becoming (more) self-directed ($n = 11$) become more frequent in the random sample.

Additional emergent characteristics can be found in Corpus C, such as explicit links to becoming autonomous, self-regulating, self-managing, and controlling one's own learning ($n = 16$). Overall, definitions in this later period show a dramatic increase in new terminology related to self-directedness, yet also maintain characteristics found in definitions from previous periods. As one would expect, the evolution of more encompassing definitions seemingly reflect movement toward cumulative knowledge-building in the field. However, as 42% of the articles in the corpus did not provide an explicit definition, a number of articles provided multiple/conflicting definitions, and some authors contradicted their own definitions, we turn now to the greater depth of understanding afforded by analyzing the full texts.

3.2. Corpus-based analysis of implicit conceptualizations

Keywords in each target corpus were placed into two main categories that emerged following additional collocation and concordance analyses: 1) general concerns of language teaching and learning and 2) pedagogical concerns of language teaching and learning (see Appendix 1 for the full list).

3.2.1. General concerns of language teaching and learning

The keywords pertaining to general concerns in Corpus A represent a mostly cognitive-oriented view of learning—one that was prominent during that time (e.g., O'Malley & Chamot, 1990). Comparing Corpus B with Corpus A, we see a clear change in how strategies are conceptualized in terms of learner action. In Corpus B, the keywords, *autonomy* ($LL = 66.32$), *affective* ($LL = 54.28$), *efficacy* ($LL = 45.12$), *metacognitive* ($LL = 44.29$), and *regulation* ($LL = 41.98$) all have high log-likelihood values and appear in the top 100 keywords.

Autonomy co-occurs most commonly with *learner* to the left ($f = 46$ to form *learner autonomy*) and *in*, *and*, and *is* to the right ($f = 32$) to form generally positive word clusters such as *autonomy and success in learning a second language* and *autonomy is part of language learning* and *is essential*. *Autonomy* is also frequent in Corpus C ($f = 665$), although due to its comparative presence in Corpus B, it does not appear as a keyword when the two lists are compared. However, when comparing Corpus C to Corpus A, *autonomy* still collocates most frequently with *learner* ($f = 201$) to the left and then *and* ($f = 101$) to the right to form similar phrases as those found in Corpus B, such as *autonomy and*: *agency*, *competence*, and *independency*. However, we now see a host of collocates with *and self-* … that were not

---

[2] Griffiths removed the regulation aspect of this definition in her later work (see Griffiths, 2018).

visible in Corpus B, such as *autonomy and*: *self-concept, self-confidence, self-directed, self-direction, self-efficacy, self-pacing, self-regulated learning* ($f = 10$), and *self-regulation* ($f = 15$). Hence, it is clear that *learner autonomy* has established itself in the discourse (as seen in Fig. 1), and has become associated with other more nuanced, discrete notions of self-directedness.

Additional keywords, *affective* and *metacognitive*, also appear to have joined the discourse, primarily through Oxford's (1990) indirect strategy classification, which included metacognitive, affective, and social strategies, and O'Malley and Chamot's (1990) categorization of strategies as metacognitive, cognitive, and social/affective.[3] Metacognition (along with agency) is often seen as a precursor to learner autonomy, with strong links to self-regulation (Gao & Zhang, 2011). Thus, such conceptualizations further broadened the scope of constructs prevalent in LLS research (see Zhang, 2010).

The keyword *efficacy* also highlights this shift, co-occurring most frequently in Corpus B with *self* to the left ($MI = 7.58$) and *beliefs* to the right ($MI = 9.19$). Efficacy exists within the affective domain and is often considered a subcomponent of the forethought phase in Zimmerman's (2000) popular three-part model of self-regulation. The inclusion of this keyword provides evidence for an increase in the perceived importance of self-efficacy in the field from 1991–2005 and then 2006–2019.

It is no surprise then that *regulation* occurs as its own keyword in Corpus B and also co-occurs most frequently with *self* to the left ($f = 56$; $MI = 9.1$). In Corpus C, *SRL* (self-regulated learning) appears as one of the most frequent keywords ($f = 446$; $LL = 174.58$) with related terms such as *regulation* ($f = 899$; $LL = 91.03$), *regulated* ($f = 468$; $LL = 85.33$), and *regulatory* ($f = 137$; $LL = 34.99$) also occurring. Moreover, *strategies* ($f = 165$; $MI = 4.88$) is the most common collocate with *SRL*, indicating that LLS and SRL have been strongly linked by some researchers at the conceptual level.

SDL (self-directed learning) is also a frequent keyword in Corpus C ($f = 114$; $LL = 44.62$), representing a similar approach to teaching and learning whereby students *control* ($LL = 46.28$) *learning* ($MI = 3.54$) or take control *of* ($MI = 3.14$) or *over* ($MI = 7.05$) *the (language) learning process*. These and other examples of learner-driven *control* are numerous ($f = 1321$), even when irrelevant collocates such as *control group* are removed. Teachers are thus seen as facilitators for student-driven learning, rather than resource providers or expert planners and orchestrators of pedagogy, because "SDL is characterized by autonomy and self-regulation" (Hawkins, 2018, p. 455).

Attention to the individual learner is further evidenced in the appearance of *emotional* ($f = 305$; $LL = 58.73$) as a keyword in Corpus C. Its most frequent collocate, *intelligence* ($f = 98$; $MI = 11.12$), links inner emotions and LLS to the outside *social* ($f = 3895$; $LL = 55.55$) realm of language learning and use. In doing so, there appears to be much wider scope in how strategies are discussed in Corpus C via the inclusion of such additional descriptors.

Motivation ($f = 2631$; $LL = 38.97$) is also a keyword in Corpus C and commonly co-occurs with *intrinsic* ($f = 177$; $MI = 3.98$). Yet, *intrinsic* ($f = 296$; $LL = 50.14$) occurs so frequently in Corpus C that it alone appears to be a significant keyword when compared to Corpus B. Its inverse, *extrinsic*, does not appear in any keyword list.

After *SRL*, *self* is the most significant, relevant keyword in Corpus C, and co-occurs most frequently with various terms to form *self-regulation* ($f = 607$; $MI = 8.46$), *self-efficacy* ($f = 518$; $MI = 8.63$), *self-regulated* ($f = 427$; $MI = 8.72$), *self-directed* ($f = 284$; $MI = 8.31$), *self-monitoring* ($f = 119$; $MI = 7.36$), *self-regulatory* ($f = 107$; $MI = 8.54$), *self-management* ($f = 77$; $MI = 7.13$), *self-assessment* ($f = 73$; $MI = 6.39$), *self-regulate* ($f = 34$; $MI = 6.51$), and *self-instruction* ($f = 53$; $MI = 3.72$), among others. Many of these words, although beginning to appear in Corpus B, do not truly emerge as influential terms until Corpus C (see *self-regulation* and *self-regulated* in Fig. 2, neither of which appeared in Corpus A; see also *self-directed* in Fig. 3).

3.2.2. Pedagogical concerns of language teaching and learning

The movement away from teacher-driven pedagogy discussed above can also be seen in keywords relating to specific pedagogical concerns. For example, the keyword *training* ($f = 498$; $LL = 413.9$), showed a consistent distribution across Corpus A as shown in Fig. 4, co-occurring most frequently with *strategy* ($f = 240$; $MI = 6.91$) and *LLS* (language learning strategies) ($f = 28$; $MI = 7.66$) to form phrases such as *strategy training: can be effective, is extremely important, is truly necessary*, and so on.

Similar words such as *instructional* ($f = 151$; $LL = 174.81$) and *instruction* ($f = 347$; $LL = 92.38$) were also keywords in Corpus A. *Instruction* co-occurred most frequently with *strategy* ($f = 85$; $MI = 5.94$) and other keywords relating to pedagogical concerns, such as *techniques* ($LL = 186.01$), *tasks* ($LL = 95.74$), *approach* ($LL = 92.73$), and *practice* ($LL = 84.04$), among others.

Few such keywords appear in the top 100 lists for Corpus B and Corpus C, as can be seen in Appendix 1. The words that do appear indicate changes in the nature of pedagogical concerns, such as *multimedia* ($f = 134$; $LL = 116.28$) in Corpus B, which is frequently framed as a valuable learning tool *intended for self-study, self-instruction*, and so on. Corpus C continues this trend with keywords such as *online* ($f = 981$; $LL = 178.65$), *technology* ($f = 517$; $LL = 64.57$), and *translation* ($f = 696$; $LL = 62.2$). We also see *feedback* ($f = 227$; $LL = 78.95$) and *error* ($f = 139$; $LL = 48.68$) as keywords in Corpus B along with *corrective* ($f = 184$; $LL = 56.82$) in Corpus C.

Overall, the analysis highlighted a trend in language related to self-directedness, especially in the way strategies are portrayed to be operationalized by learners and in their intended purpose, supporting the limited findings of Thomas et al. (2021).

Keywords in the first time period (1975–1990) were less indicative of self-directedness (found in just 8% of the definitions) and predominantly indicated instructional processes and activities where teachers play a key role. In the second time period (1991–2005), explicit definitions had evolved to contain increasing reference to elements of self-directedness (found in 23% of definitions). This trend continued in the third period (2006–2019) where elements of self-directedness were seen in 40% of definitions. However, in this latest period, there was also a significant increase in the inclusion of new terminology in explicit definitions: terminology reflecting

---

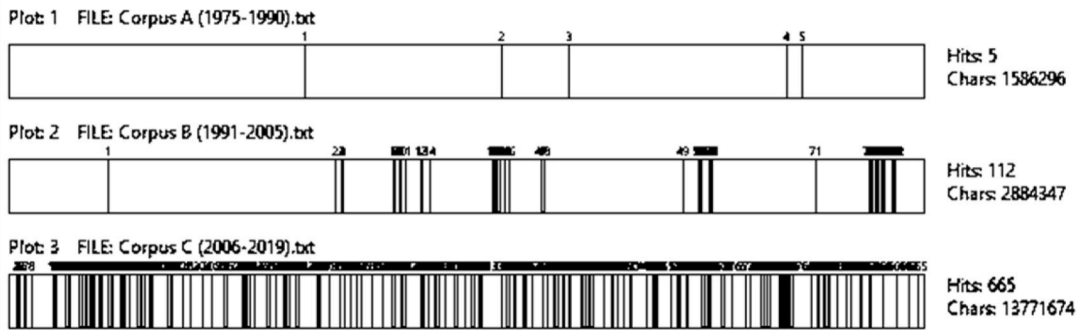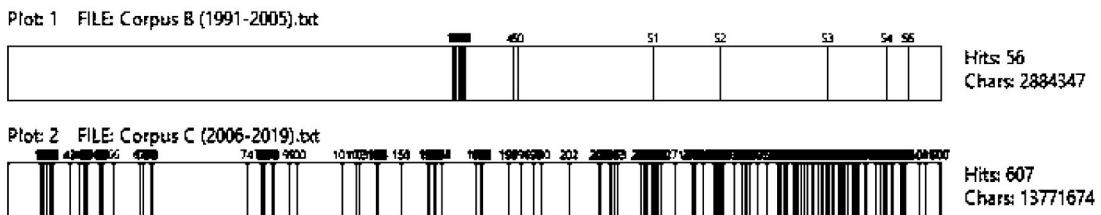[3] See also Wenden's work (e.g., Wenden, 1991; Wenden & Rubin, 1987).

Fig. 1. Concordance plots of "autonomy"
Note: Concordance plots show a normalized length of the entire corpus with each line (or *hit*) indicating where the word occurs in the data set.

Self-regulation

Self-regulated

Fig. 2. Concordance plots for "self-regulation" and "self-regulated" in Corpus B and Corpus C.
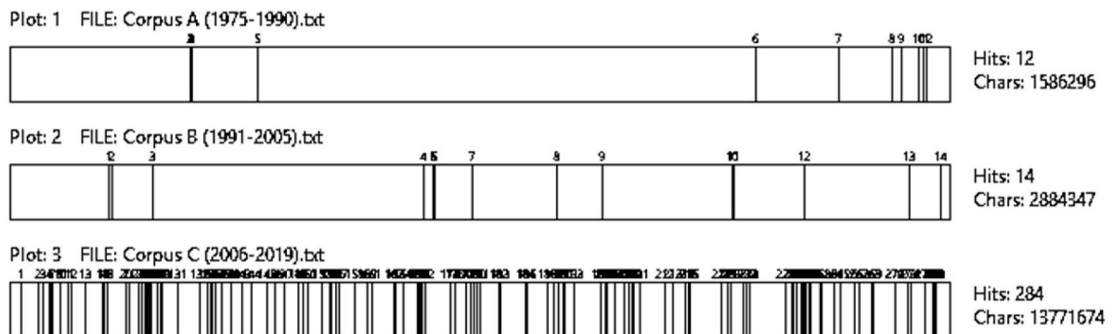

Fig. 3. Concordance plots for "self-directed" in Corpus A, B, and C

learner choice/self-selection and strategies used for the purpose of being or becoming (more) self-directed. It is also important to note that 42% of the articles in our sample did not provide a definition, and many articles provided unclear or conflicting definitions.

The corpus-based analysis revealed how concepts such as *autonomy*, *efficacy*, *metacognitive*, and *regulation* began to appear in the second time period, primarily through Oxford's (1990) influential conceptualization. These additional concepts arguably broadened

Fig. 4. Concordance plot for "training" in Corpus A

the scope of language learning strategy research, and by the most recent time period (2006–2019), they had firmly established themselves as part of the discourse. In more recent publications, *self* emerged as a frequent collocate alongside other keywords, forming notable phrases such as *self-regulated learning* (SRL) and *self-directed learning* (SDL), among others.

4. Discussion

Based on the findings above, it appears as though the scope of LLS conceptualizations has broadened to allow comparisons between various, mostly learner-centered factors. However, it also appears to have narrowed in the ways in which strategies are perceived to be operationalized by learners and their purposes for doing so. This may be attributed to conscious or unconscious attempts by researchers to soothe "disciplinary anxiety by aligning us with the wider world" (Pavlenko, 2019, p. 161). Pavlenko introduces this idea in relation to *sloganization*, which Schmenk et al. (2019) define as "a tendency to use a range of popular terms in scholarship, policy papers, practical applications and curriculum development *as if* their meaning were obvious and shared across the globe" (p. 4, emphasis in original).

In reviewing the explicit definitions and implicit conceptualizations in Corpus A, we believe that with the initial optimism that LLS research held came an air of understandable naivety regarding the fuzziness of the concept. Many later researchers continued to "forego precise definitions", "overlook inconsistencies", and "perpetuate seemingly straightforward/unproblematic terms", but this did not occur through a process of "reduction" or "simplification" of concepts that is often associated with sloganization (Viebrock, 2019, p. 72). Rather, the conceptualizations of LLS appear to have been influenced by the promulgation of *actual* sloganized terms, especially in Corpus C.

For example, Schmenk et al. (2019) describe the sloganization of *learner autonomy*, which was highly prevalent in our data. The term was originally introduced by Holec (see below), using a set of descriptors virtually impossible for most learners to embody successfully:

> To say of a learner that he [*sic*] is autonomous is … to say that he is capable of taking charge of his own learning … for all the decisions concerning all aspects of this learning, i.e.: determining the objectives; defining the contents and progressions; selecting methods and techniques to be used; monitoring the procedure of acquisition … [and] evaluating what has been acquired. (Holec, 1980, p. 4 in; Schmenk et al., 2019, p. 5)

However, this is not the *learner autonomy* that is referenced in many publications. Instead, a sloganized version—*to take charge of one's own learning*—is what has gained traction, aided, as most slogans are, by the use of "trendy keywords" that are memorable (Pavlenko, 2019, p. 145) and difficult to argue against due to their "idealization and common sense appeal" (Schmenk et al., 2019, p. 7). Recent conceptualizations of LLS appear to have been transformed through the inclusion of such terms, which has placed more conceptual emphasis on demonstrating how learners can embody aspects of self-directedness and less on what we believe actually occurs in formal education settings: teachers supporting learners, learners supporting one another, and learners relying on a host of material/technological resources to ensure their learning is successful.

Although perhaps a controversial stance due to the emphasis that has been placed on concepts related to self-directedness, it is our view that researchers must critically question whether these concepts best represent strategic learning that takes place in formal education settings, are relevant to all contexts, practicable by all learners, and therefore, whether they should be defining characteristics in LLS definitions. There are times when well-trained and experienced teachers may be better able to help learners accomplish learning aims when afforded their own agency to teach strategies—explicitly—and require students to use certain strategies (e.g., to develop effective habits), while also selecting methods, monitoring the process, and assessing learning outcomes (cf. Holec, 1980 above). This is likely to entail pedagogy that has been proven successful with similar students in the same context, validated by the teacher's own experience and expertise.

Bach (2019) emphasizes that quickness to embrace academic branding is common in language education, and in the case of LLS, this may result in forgetting that language learning is an inherently interactive, social process, where more knowledgeable and/or experienced *others*, including non-human agents of semiotic mediation (i.e., material/technological *others*), often play a vital role. This has been illustrated in LLS research that has embraced sociocultural perspectives (see Donato & McCormick, 1994; Gao, 2010; Gao & Hu, 2020; Hajar, 2019). Thus, strategic learners may not be as self-regulated or autonomous as they have been portrayed in recent literature. It would seem that in order for theoretical-conceptual thought to align with the realities of educational contexts in which many language learners find themselves, a holistic, *learning-centered* conceptualization needs to be developed to complement current *learner-centered* varieties.

4.1. Implications

Before we venture any further, we wish to make it clear that we do not want to be dismissive of genuine efforts by some researchers to conceptualize LLS in relation to other concepts. Indeed, certain proposals have amounted to more than following the trends of their

time and continue to illustrate sincere attempts to consolidate knowledge in the field and to draw connections with other bodies of relevant research.

We are also not against concepts related to self-directedness nor do we feel that teachers must be rigid dictators. On the contrary, self-directedness, by way of negotiated regulation and realistic notions of autonomy (see Murray, 2014), for example, may be ideal outcomes for many learners. This would remove much pressure from teachers, shifting a portion of the responsibility for learning in classroom settings to the students. However, many teachers are still held accountable for students' learning and/or academic achievement (these terms are not always synonymous); they are often evaluated based on their students' performance. Students, too, often have very specific, temporary goals for learning, such as passing a test, demonstrating proficiency for employment, or studying abroad, which may not always originate from or be regulated by the *self*. In such cases, students may want, need, or simply benefit from depending on or co-regulating with *others* to enable them to achieve their goals as efficiently as possible.

Accordingly, in order for conceptual concerns of LLS to align with the realities of practice, there must be a way to conceptualize strategic behavior that occurs in a combination of self-, co-, and other-regulated ways. Beyond sociocultural approaches (see above), one well-established theory that somewhat accomplishes this is self-determination theory (see Ryan & Deci, 2017). It attempts to explain human behavior on a continuum from controlled to autonomous regulation, through intrinsic and extrinsic motivational orientations, with several gradations between the extremes.

Recent scholarship to conceptualize the relationship between LLS and self-regulated learning has proposed a continuum model inspired by the self-determination continuum (see Thomas & Rose, 2019). We believe in the inherent value a continuum model holds in bringing students and teachers in on improving the processes that may lead to successful learning outcomes and, potentially, the development of successfully self-directed learners. However, in similar attempts to bring self-determination theory into the study of language learning and teaching, the *learning* itself has sometimes taken a backseat to aims that aspire "to build more high-quality autonomous motivation" above all else (McEown & Oga-Baldwin, 2019, p. 2). We agree that autonomous motivation may exist independently or be a byproduct of successful instruction, but the goal of language learning and teaching must be to learn language effectively. Hence, we worry that interpretations of the model and underlying theory may suffer from a case of *knowledge blindness* (see Maton, 2014). That is, researchers' idealized goals for language learners may reflect the conceptualizations of LLS elucidated in the current study, many of which limit learners' use of strategies to purposes solely associated with self-directedness. To combat these and others issues, we question whether it is enough to adapt a continuum model linked to a theory already entrenched in its own discursive formations and that does not account for the language-specific aspects of language learning.

Further theorizing is needed, followed by empirical research viewing strategic language learning for what it is rather than from the idealized view we hope it can be; namely, the accumulation of a form of knowledge that is "embodied, environmentally embedded, autopoietically enacted, and socially encultured and distributed" (Ellis, 2019, p. 39). This would mean that in addition to recognizing the need for relational autonomy in learning processes, there is also a need for positional autonomy with regard to the knowledge being learned. Such a view would acknowledge that the product of language learning and the process of language learning are not separate, unidirectional entities, but are mutually constitutive and reciprocally conditioned. This is a line of work we are currently engaged in, with several ongoing theoretical and empirical projects that challenge and attempt to assess the utility of previous proposals for the field—including our own—with an open mind. We hope others will do the same.

5. Conclusion

We set out to explore explicit definitions and implicit conceptualizations of LLS in three time periods, as well as investigate the reported roles of teachers and students in the literature we sampled, leading to several contributions to the field.

First, findings from the content analysis showed an increasing number of definitions across the three time periods—as one would expect from an expanding field—with increased reference to aspects of self-directedness. Definitions in the most recent period also included a higher percentage and greater variety of these aspects overall. Findings from the corpus-based analysis demonstrated a similar trend, but also showed that most concepts related to self-directedness began to appear in the 1991–2005 period and saw dramatic increases in the most recent time period.

Second, supported by the content and corpus-based analyses, we reasoned that the role of teachers as resource providers and pedagogical agents has diminished since the first time period, and that this is reflected in assumptions that self-directedness (particularly self-regulation, agency, and autonomy) is attributed to "good" learners; namely, researchers have increasingly conceptualized learners as individuals who use LLS to make their learning more self-directed, among other aspects. This may, in part, be due to an observed intellectualization of the field of TESOL due to top-down pressures of scientific rigor and interdisciplinarity in research (see McKinley, 2019), which may draw researchers towards well-established cognitive and psychological epistemologies.

Third, based on our findings and other recent discussions concerning conceptualizations and cumulative knowledge-building, we discussed a view of strategic learning that aims to combine product and process orientations to align more with the practical goals of language learning; i.e., an "appliable" model that can be used for both research and pedagogy. In doing so, we aim to highlight the important role of others (e.g., teachers, peers, and material/technological resources) in students' development as successful strategic learners, as well as bring the constitutive role of language more clearly into focus. Here, especially, further theorizing and testing are needed.

As with any study, ours is not without limitations. First, potentially relevant studies could be missing from the sample, as we focused only on more established databases and used somewhat restricted search terms for Corpus B and C. However, we believe these shortcomings are outweighed by the benefits of selectivity; namely, limiting the sample to articles published in journals vetted by major databases and using terms that align them with the field of LLS that has conventionalized in the latter two time periods. Second,

when comparing corpora as a whole, qualitatively different aspects of definitions and conceptualizations may become generalized and lost in the midst of other more prevalent findings. Thus, every effort was made to provide multiple excerpts from textual data to support the statistical findings.

Future research could investigate the potential of conceptualizations of strategic learning that foreground learners' development from other- to self-regulation, such as Thomas and Rose's (2019) continuum model, or other novel proposals. Research could test whether such conceptualizations accurately portray learners' *actual* strategic behavior in relation external factors. In this way, research may be able to provide insights into both the underlying processes and specific strategic behavior of learners, especially if coupled with a strategy-specific theory. Additionally, exploring concepts such as co- and socially shared regulation may be equally fruitful. In-depth qualitative and/or mixed methods approaches are likely best suited for such research. In line with Gao and Hu (2020), we believe that "instead of seeing language learning as regulated by individual selves, more research needs to explore language learning as co-regulated through interaction between individual learners and learning contexts" (p. 35).

Author contributions

Nathan Thomas: Conceptualization; Methodology; Formal analysis; Investigation; Resources; Data curation; Writing – original draft; Writing – review & editing; Project administration.
Neil Bowen: Formal analysis; Writing – Original Draft; Writing – Review & Editing; Visualization.
Heath Rose: Writing – Original Draft; Writing – Review & Editing; Supervision.

Declaration of competing interest

None.

Acknowledgements

Appendix 1. Relevant Keywords in Corpus A, B, and C

	Corpus A v (B + C)	Corpus B v A	Corpus C v B
	1975–1990	1991–2005	2006–2019
General concerns in language teaching and learning	comprehension, information, meaning, rule, rules, authentic, bilingual, linguistic, mentalistic, acculturation, functional, verbal, remedial, nonremedial, speech, behaviors, inferencing, production, reading, composing	autonomy, affective, efficacy, metacognitive, regulation, compensation, community, sensory, anxiety	SRL, self, regulation, regulated, regulatory, SDL, control, efficacy, meta, emotional, social, intrinsic, motivation, gifted, vocabulary, skills, writing conscientiousness, competence, styles, engagement, beliefs, intelligence, intelligences, challenges
Pedagogical concerns in language teaching and learning	CALLA, training, trainers, instruction, instructional, monitoring, techniques, tasks, practice, mapping, rehearsed, dictation, approach	multimedia, feedback, error	online, technology, translation, corrective

References

Anderson, J. R. (1985). *Cognitive psychology and its implications* (2nd ed.). W.H. Freeman.
Anthony, L. (2019). *AntConc* [Computer Software]. Tokyo, Japan: Waseda University. Available from: Version 3.5.8. http://www.laurenceanthony.net/software/antconc/.
Ardasheva, Y., Wang, Z., Adesope, O. O., & Valentine, J. C. (2017). Exploring effectiveness and moderators of language learning strategy instruction on second language and self-regulated learning outcomes. *Review of Educational Research, 87*(3), 544–582. https://doi.org/10.3102/0034654316689135
Bach, G. (2019). Slo(w)ganization. Against the constant need for re-inventing the discourse on language education: The case of 'multiple intelligences. In B. Schmenk, S. Breidbach, & L. Küster (Eds.), *Sloganization in language education discourse* (pp. 57–71). Multilingual Matters. https://doi.org/10.21832/9781788921879-005.
Bialystok, E. (1978). A theoretical model of second language learning. *Language Learning, 28*(1), 69–83. https://doi.org/10.1111/j.1467-1770.1978.tb00305.x
Bialystok, E. (1983). Some factors in the selection and implementation of communication strategies. In C. K. Faerch (Ed.), *Strategies in interlanguage communication* (pp. 100–118). Longman.
Chong, S. W. (2019). A systematic review of written corrective feedback research in ESL/EFL contexts. *Language Education & Assessment, 2*(2), 70–95. https://doi.org/10.29140/lea.v2n2.138
Cohen, A. D. (1986). Mentalistic measures in reading strategy research: Some recent findings. *English for Specific Purposes, 5*(2), 131–145. https://doi.org/10.1016/0889-4906(86)90019-0
Cohen, A. D. (1990). *Language learning: Insights for learners, teachers, and researchers.* Newbury House/Harper Collins.
Cohen, A. D. (1998). *Strategies in learning and using a second language* (1st ed.). Longman.

Cohen, A. D. (2007). Coming to terms with language learner strategies: Surveying the experts. In A. D. Cohen, & E. Macaro (Eds.), *Language learner strategies: Thirty years of research and practice*. Oxford University Press.

Cohen, A. D., & Macaro, E. (Eds.). (2007). *Language learner strategies: Thirty years of research and practice*. Oxford University Press.

Cohen, A., & Robbins, M. (1976). Toward assessing interlanguage performance: The relationship between selected errors, learners' characteristics, and learners' explanations. *Language Learning, 26*(1), 45–66. https://doi.org/10.1111/j.1467-1770.1976.tb00259.x

Donato, R., & McCormick, D. (1994). A sociocultural perspective on language learning strategies: The role of mediation. *The Modern Language Journal, 78*(4), 453–464. https://doi.org/10.1111/j.1540-4781.1994.tb02063.x

Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition*. Lawrence Erlbaum.

Dörnyei, Z., & Ryan, S. (2015). *The psychology of the language learner revisited*. Routledge. https://doi.org/10.4324/9781315779553

Dörnyei, Z., & Skehan, P. (2003). Individual differences in second language learning. In C. J. Doughty, & M. H. Long (Eds.), *The handbook of second language acquisition* (pp. 589–630). Blackwell. https://doi.org/10.1002/9780470756492.ch18.

Ellis, R. (1994). *The study of second language acquisition*. Oxford University Press.

Ellis, N. C. (2019). Essentials of a theory of language cognition. *The Modern Language Journal, 103*, 39–60. https://doi.org/10.1111/modl.12532

Gao, X. (2007). Has Language Learning strategy research come to an end? A response to Tseng et al. (2006). *Applied Linguistics, 28*, 615–620. https://doi.org/10.1093/applin/amm034

Gao, X. (2010). *Strategic language learning: The roles of agency and context*. Multilingual Matters.

Gao, X., & Hu, J. (2020). From language learning strategy research to a sociocultural understanding of self-regulated learning. In M. Jiménez Raya, & F. Vieira (Eds.), *Autonomy in language education: Theory, research and practice* (pp. 31–44). Routledge.

Gao, X., & Zhang, L. J. (2011). Joining forces for synergy: Agency and metacognition as interrelated theoretical perspectives on learner autonomy. In G. Murray, X. Gao, & T. Lamb (Eds.), *Identity, motivation and autonomy in language learning* (pp. 25–41). Multilingual Matters. https://doi.org/10.21832/9781847693747-004.

Grenfell, M., & Harris, V. (1999). *Modern languages and learning strategies: In theory and practice*. Routledge.

Grenfell, M. J., & Harris, V. (2017). *Language learner strategies: Contexts, issues and applications in second language learning and teaching*. Bloomsbury.

Grenfell, M., & Macaro, E. (2007). Claims and critiques. In A. D. Cohen, & E. Macaro (Eds.), *Language learner strategies* (pp. 9–28). Oxford University Press.

Griffiths, C. (2008). *Lessons from good language learners*. Cambridge University Press. https://doi.org/10.1017/CBO9780511497667

Griffiths, C. (2018). *The strategy factor in successful language learning: The tornado effect*. Multilingual Matters. https://doi.org/10.21832/9781783099757

Gu, Y. (2007). Foreword. In A. Cohen, & E. Macaro (Eds.), *Language learner strategies: Thirty years of research and practice*. Oxford University Press.

Gu, Y. (2012). Learning Strategies: Prototypical core and dimensions of variation. *Studies in Self-Access Learning Journal, 3*(4), 330–356. http://sisaljournal.org/archives/dec12/gu.

Hajar, A. (2019). *International students' challenges, strategies and future vision: A socio-dynamic perspective*. Multilingual Matters.

Hassan, X., Macaro, E., Mason, D., Nye, G., Smith, P., & Vanderplank, P. (2005). Strategy training in language learning: A systematic review of available research. In *Research evidence in education library*. EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Hiver, P., Al-Hoorie, A. H., Vitta, J. P., & Wu, J. (2021). Engagement in language learning: A systematic review of 20 years of research methods and definitions. *Language Teaching Research*, 1–30. https://doi.org/10.1177/13621688211001289 (Online First).

Holec, H (1980). *Autonomy and foreign language learning*. Council of Europe. Council for Cultural Co-operation.

Hosenfeld, C. (1976). Learning about learning: Discovering our students' strategies. *Foreign Language Annals, 9*, 117–129. https://doi.org/10.1111/j.1944-9720.1976.tb02637.x

Hosenfeld, C. (1977). A preliminary investigation of the reading strategies of successful and nonsuccessful second language learners. *System, 5*(2), 110–123. https://doi.org/10.1016/0346-251X(77)90087-2

Hunston, S (2002) *Corpora in applied linguistics*. Cambridge University Press.

Kawai, Y., Oxford, R. L., & Iran-Nejad, A. (2000). Sources of internal self-regulation with a focus on language learning. *The Journal of Mind and Behavior, 21*(1–2), 45–60.

Lei, L., & Liu, D. (2019). The research trends and contributions of system's publications over the past four decades (1973-2017): A bibliometric analysis. *System, 80*, 1–13. https://doi.org/10.1016/j.system.2018.10.003

Macaro, E. (2001). *Learning strategies in foreign and second language classrooms*. Continuum.

Macaro, E. (2006). Strategies for language learning and for language use: Revising the theoretical framework. *The Modern Language Journal, 90*(3), 320–337. https://doi.org/10.1111/j.1540-4781.2006.00425.x

Macaro, E. (2020). Systematic review in applied linguistics. In J. McKinley, & H. Rose (Eds.), *The routledge handbook of research methods in applied linguistics* (pp. 230–239). Routledge. https://doi.org/10.4324/9780367824471-20.

Maton, K. (2014). *Knowledge and knowers: Towards a realist sociology of education*. Routledge. https://doi.org/10.4324/9780203885734

McEnery, T., & Hardie, A. (2012). *Corpus linguistics*. Cambridge University Press. https://doi.org/10.1093/oxfordhb/9780199276349.013.0024

McEown, M. S., & Oga-Baldwin, W. L. (2019). Self-determination for all language learners. *System, 86*, 102124. https://doi.org/10.1016/j.system.2019.102124

McKinley, J. (2019). Evolving the TESOL teaching-research nexus. *Tesol Quarterly, 53*(3), 875–884. https://doi.org/10.1002/tesq.509

Murray, G. (2014). *Social dimensions of autonomy in language learning*. Palgrave Macmillan. https://doi.org/10.1057/9781137290243

Naiman, N., Frohlich, M., Stern, H., & Todesco, A. (1978). *The good language learner*. The Ontario Institute for Studies in Education.

O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. Cambridge University Press. https://doi.org/10.1017/CBO9781139524490

Oxford, R. L. (1989). Use of language learning strategies: A synthesis of studies with implications for strategy training. *System, 17*, 235–247. https://doi.org/10.1016/0346-251X(89)90036-5

Oxford, R. L. (1990). *Language learning strategies: What every teacher should know*. Heinle.

Oxford, R. L. (2011). *Teaching and researching language learning strategies*. Pearson.

Oxford, R. L. (2017). *Teaching and researching language learning strategies: Self-regulation in context* (2nd ed.). Routledge. https://doi.org/10.4324/9781315719146

Oxford, R. L., & Amerstorfer, C. M. (Eds.). (2018). *Language learning strategies and individual learner characteristics: Situating strategy use in diverse contexts*. Bloomsbury.

Oxford, R. L., & Crookall, D. (1989). Research on language learning strategies: Methods, findings, and instructional issues. *The Modern Language Journal, 74*(4), 404–419. https://doi.org/10.2307/326876

Oxford, R. L., Lavine, R. Z., & Crookall, D. (1989). Language learning strategies, the communicative approach, and their classroom implications. *Foreign Language Annals, 22*(1), 29–39. https://doi.org/10.1111/j.1944-9720.1989.tb03139.x

Oxford, R. L., & Nyikos, M. (1989). Variables affecting choice of language learning strategies by university students. *The Modern Language Journal, 73*(3), 291–300. https://doi.org/10.1111/j.1540-4781.1989.tb06367.x

Pavlenko, A. (2019). Superdiversity and why it isn't: Reflections on terminological innovation and academic branding. In B. Schmenk, S. Breidbach, & L. Küster (Eds.), *Sloganization in language education discourse* (pp. 142–168). Multilingual Matters. https://doi.org/10.21832/9781788921879-009.

Plonsky, L. (2011). Systematic review article: The effectiveness of second language strategy instruction: A meta-analysis. *Language Learning, 61*, 993–1038. https://doi.org/10.1111/j.1467-9922.2011.00663.x

Plonsky, L. (2019). Language learning strategy instruction: Recent research and future directions. In A. U. Chamot, & V. Harris (Eds.), *Learning strategy instruction in the language classroom: Issues and implementation* (pp. 3–21). Multilingual Matters.

Pojanapunya, P., & Watson Todd, R. (2018). Log-likelihood and odds ratio: Keyness statistics for different purposes of keyword analysis. *Corpus Linguistics and Linguistic Theory, 14*(1), 133–167. https://doi.org/10.1515/cllt-2015-0030

Rayson, P. (2008). From key words to semantic domains. *International Journal of Corpus Linguistics, 13*(4), 519–549. https://doi.org/10.1075/ijcl.13.4.06ray

Rigney, J. W. (1978). Learning strategies: A theoretical perspective. In H. F. O'Neil (Ed.), *Learning strategies* (pp. 165–205). Academic Press.

Rose, H. (2012). Reconceptualizing strategic learning in the face of self-regulation: Throwing language learning strategies out with the bathwater. *Applied Linguistics, 33*(1), 92–98. https://doi.org/10.1093/applin/amr045

Rose, H., Briggs, J. G., Boggs, J. A., Sergio, L., & Ivanova-Slavianskaia, N. (2018). A systematic review of language learner strategy research in the face of self-regulation. *System, 72*, 151–163. https://doi.org/10.1016/j.system.2017.12.002

Rubin, J. (1975). What the "good language learner" can teach us. *Tesol Quarterly, 9*, 41–51. https://doi.org/10.2307/3586011

Ryan, R. M., & Deci, E. L. (2017). *Self-determination: Basic psychological needs in motivation, development, and wellness*. Guilford Press. https://doi.org/10.1521/978.14625/28806

Sasaki, M., Mizumoto, A., & Murakami, A. (2018). Developmental trajectories in L2 writing strategy use: A self-regulation perspective. *The Modern Language Journal, 102*(2), 292–309. https://doi.org/10.1111/modl.12469

Schmenk, B., Breidbach, S., & Küster, L. (2019). Sloganization in language education discourse: Introduction. In B. Schmenk, S. Breidbach, & L. Küster (Eds.), *Sloganization in language education discourse* (pp. 1–18). Multilingual Matters. https://doi.org/10.21832/9781788921879-002.

Stern, H. (1975). What can we learn from the good language learner? *Canadian Modern Language Review, 34*, 304–318. https://doi.org/10.3138/cmlr.31.4.304

Thomas, N., & Rose, H. (2019). Do Language Learning strategies need to be self-directed? Disentangling strategies from self-regulated learning. *Tesol Quarterly, 53*(1). https://doi.org/10.1002/tesq.473

Thomas, N., Rose, H., & Pojanapunya, P. (2021). Conceptual issues in strategy research: Examining the roles of teachers and students in formal education settings. *Applied Linguistics Review, 12*(2), 353–369. https://doi.org/10.1515/applirev-2019-0033

Tseng, W., Dörnyei, Z., & Schmitt, N. (2006). A new approach to assessing strategic learning: The case of self-regulation in vocabulary acquisition. *Applied Linguistics, 27*(1), 78–102. https://doi.org/10.1093/applin/ami046

Viebrock, B. (2019). Just another prefix? From inter- to transcultural foreign Language Learning and beyond. In B. Schmenk, S. Breidbach, & L. Küster (Eds.), *Sloganization in language education discourse* (pp. 72–93). Multilingual Matters. https://doi.org/10.21832/9781788921879-006.

Wenden, A. (1991). *Learner strategies for learner autonomy*. Prentice Hall.

Wenden, A., & Rubin, J. (Eds.). (1987). *Learner strategies and language learning*. Prentice Hall.

Zhang, L. J. (2003). Research into Chinese EFL learner strategies: Methods, findings and instructional issues. *RELC Journal, 34*(3), 284–322. https://doi.org/10.1177/003368820303400303

Zhang, L. J. (2010). A dynamic metacognitive systems account of Chinese university students' knowledge about EFL reading. *Tesol Quarterly, 44*(2), 320–353. https://doi.org/10.5054/tq.2010.223352

Zhang, L. J., Thomas, N., & Qin, T. L. (2019). Language learning strategy research in *System*: Looking back and looking forward. *System, 84*, 87–92. https://doi.org/10.1016/j.system.2019.06.002

Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13–30). Academic Press.