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Language Learning Strategies Used by ESL Students in Enhancing English Proficiency: A Systematic Review (2013-2022)

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Abstract
Language learning methods (LLS) are frequently employed to support education, notably to raise ESL students' competence levels. The majority of ESL students' English proficiency, especially among undergraduates, is average, and academics have carried out various studies to better understand the problems. The competency levels of ESL students vary depending on their gender. The goal of the study is to discover, using data from recent studies, the language learning techniques ESL students utilize to improve their English proficiency. In order to improve English proficiency, language learning trends are thus thoroughly identified in this review. 47 final papers were extracted using three databases: Web of Science (WoS), Scopus, and Educational Resources Information Center (ERIC). The data showed that ESL learners frequently adopt LLS to improve English competence. Choices are influenced by socioeconomic, political, educational, religious, and cultural variables. Second, recent studies show language learners tend to use one approach, but rare studies show they use more than one. Third, the current research' focus groups were held in schools, colleges, universities, institutions, and among ESL adults. These three findings imply study gaps on factors influencing LLS decisions. This review helps practitioners know which LLS to apply in language acquisition and highlight research needs to maintain future education.
Keywords: Language Learning Strategy (LLS), ESL Learners, Direct Learning Strategy, Indirect Learning Strategy, Strategy Inventory in Language Learning (SILL)

Introduction
English is a lingua franca where communication has been the core of a globally accepted network (Rao, 2019; Ku & Sussman, 2022). Most countries in Asia have accepted the lingua franca as the second language besides their first language. English has emerged as one of the most sought-after lingua franca due to its versatility in communication and the benefits gained from the language (Ricento, 2018; Mishina & Iskandar, 2019). Thus, understanding the function of each learning strategy is crucial for every good language learner (Cohen & Wang, 2018; Senad et al., 2021). The learning strategies should be selected according to the individual needs and purpose of learning the language (Rose et al., 2018; Griffiths, 2018). Reportedly, good language learners preferred using learning strategies in enhancing their understanding in acquiring the language. In contrast, lower proficiency learners tended to use

fewer learning strategies. However, Goal 4, as promoted by United Nations (UN) in Sustainable Development Goals (SDGs), will require individuals to be competitive, knowledgeable with autonomous learning, and have more human-centric attributes to provide quality education for all (Giangrande et al., 2019; Boeren, 2019).

Oxford first introduced language learning strategies (LLS), which were widely used among learners and educators across the globe (Oxford, 2018). Learners are responsible for their purposeful learning, as language learning strategies provide better and more meaningful learning experiences. Therefore, learners should employ the right learning strategies in acquiring the language.

Language learning strategies (LLS) comprise two main strategies; direct strategies and indirect strategies. Direct strategies involve memory strategy, cognitive strategy, and compensation strategy. Indirect strategies involve metacognitive strategy, affective strategy, and social strategy. Most good language learners employ metacognitive and cognitive strategies in language learning, contrasting with their counterparts (Hidayah, 2020). Whereas lower proficiency learners prefer indirect strategy in their language learning. Their understanding of the language learning strategies was less effective than the good language learners. Educators should play their part in getting this problem down to make learning using the right LLS fully achieved.

In addition, young learners tend to use more LLS than their counterparts (Ahsanah, 2020 ; Gursoy & Eken, 2018). Senior learners use fewer LLS when acquiring English as their ESL or EFL. Further, online learning has changed how LLS is performed due to its versatility and user-friendly. Adult learners were found to prefer compensation strategies during online classes (Anuar & Mokhtar, 2020). LLS has provided significant learning for all, where acquiring English as a second language (ESL) has become necessary to learn the language accepted globally for education, networking, business, and political purposes. Hence, this study is conducted to identify the language learning strategies used by ESL students in enhancing their English proficiency, with one research question as follows:

RQ1: What are the language learning strategies (LLS) used by ESL learners based on the current studies?

Trends in English as a Second Language (ESL)

ESL has been accepted as the second language in almost every non-native English speaker nation, although some countries treat it as EFL (Singh et al., 2021; Chakma, 2020). However, due to its versatility to become the main communication method in most countries for economic and political networking purposes, English has become the lingua franca for most countries across the globe (Si, 2019). Most Asian countries have accepted English as either the second language or the foreign language and include the language in their education system. However, it has received ambivalent feedback from all parties, particularly; teachers, students, and the community, due to the foreign features which collide with their cultures, beliefs, and native languages (Wedlock, 2020; Hucke, 2021).

Over the years, many studies investigated the pedagogical approach to learning English as a second language (Chou, 2018; Lestari & Wahyudin, 2020). Researchers found that learning the language has prevailed in connecting the world through education in English. However, according to the findings, certain obstacles still need to be overcome. Therefore, ESL learners should be given better opportunities, bridging the gap in education among ESL learners to get quality education (Sabirova & Khanipova, 2019; Hoi, 2020).

Trends in Language Learning Strategies (LLS)

Studies on language learning strategies (LLS) have remarkably shown growing trends among researchers (Thomas et al., 2021 ; Zakaria et al., 2019). Studies conducted on adult learners, i.e., university students and adult learners, were varied in multidisciplinary; i.e., education, engineering, and medical purposes. Further, participants from the selected studies have shown varied feedback on their autonomous learning. In addition, LLS among schoolchildren has shown an upsurge of interest, despite the pros and cons of employing LLS in second language acquisition (SLA), i.e., gender, geographical region, and academic achievement (Gursoy & Eken, 2018).

The pedagogical approach to tackling the vague understanding of the learners of the functions of each LLS in second language acquisition was crucial and pivotal (Zhang et al., 2019; Yusuf et al., 2019). Therefore, educators should play roles in improving their pedagogical skills in delivering the knowledge and introducing the right way of employing LLS in the learners' autonomous learning process (Chamot & Harris, 2019; Ismail et al., 2020). Findings reported from past studies found that LLS has been used widely due to its variety of strategies, which enable learners to choose according to their learning objectives. However, studies by Pawlak (2021) stated the effectiveness of LLS was not automated but needed to be matched with the task needed to comprehend. The researcher claimed that LLS was successful when the selected strategies were properly matched with the correct task. Hence, autonomous learners should be able to identify their learning needs and their learning goals in order to make learning more meaningful (Pawlak, 2022).

Reviews on Language Learning Strategies

Direct and indirect strategies include language learning methodologies (Oxford, 2018). Memory techniques, cognitive strategies, and compensating methods constituted direct tactics. In contrast, indirect strategies consisted of metacognitive, emotional, and social techniques. According to Jaekel (2020), the language learning strategies used by learners had a detrimental effect on the learners, but self-efficacy predicted greater language competence. Researchers argued that students should have a greater sense of self-efficacy in order to make better decisions when picking appropriate learning methodologies. In contrast to LLS use in the 1970s, when it was still notorious among learners and educators, LLS usage among ESL learners has become widespread in recent years (Jaekel, 2020). Good language learners must regularly apply LLS to be effective with independent learning (Dorand, 2020).

Dorand (2020) asserts that the consistent application of LLS is crucial for determining the effectiveness of the learning. Since the 1970s, there has been an increase in reviews of LLS among ESL students. The association between personality factors and language learning styles among Engineering Technology students was investigated in a research (Nordin et al., 2020). There was a correlation between personality factors and language acquisition methodologies, according to the data. In a separate study done by Nordin et al (2020), cognitive techniques were shown to be the most popular, followed by memory strategies and compensating strategies. According to the results, learners were capable of diversifying their selection of LLS for independent learning.

Mizumoto and Takeuchi (2018) described the usage, development, and analysis of questionnaires in LLS research and practise in a review. Melanliolu (2020) described vocabulary acquisition systems as including four components: the learning process, technology materials, psychological processes, and visual materials. According to Nath and Meena (2019), learners engage in several types of learning techniques, with the preference of

learning methods based on the purpose, goal, and circumstance. Several important studies, according to Rose et al (2018), have shown a number of breakthroughs that have substantially increased language learning strategy research in recent years.

Other assessments of language learning strategy (LLS) that concentrate on ESL/EFL are, however, few. Future study should focus on accelerating the efficacy of LLS usage among learners and educators in order to close the gap. This research evaluates the preferred language learning techniques among ESL and EFL students to bridge this knowledge gap.

Methods

This systematic review has been conducted according to PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Page et al., 2022). There are four stages, known as identification, screening, eligibility, and included, as shown in Figure 1. PRISMA has been used widely by researchers due to its compatibility and systematic process, which are adaptable to other studies. Thus, the aim of the study and processes in every stage is presented as follows.
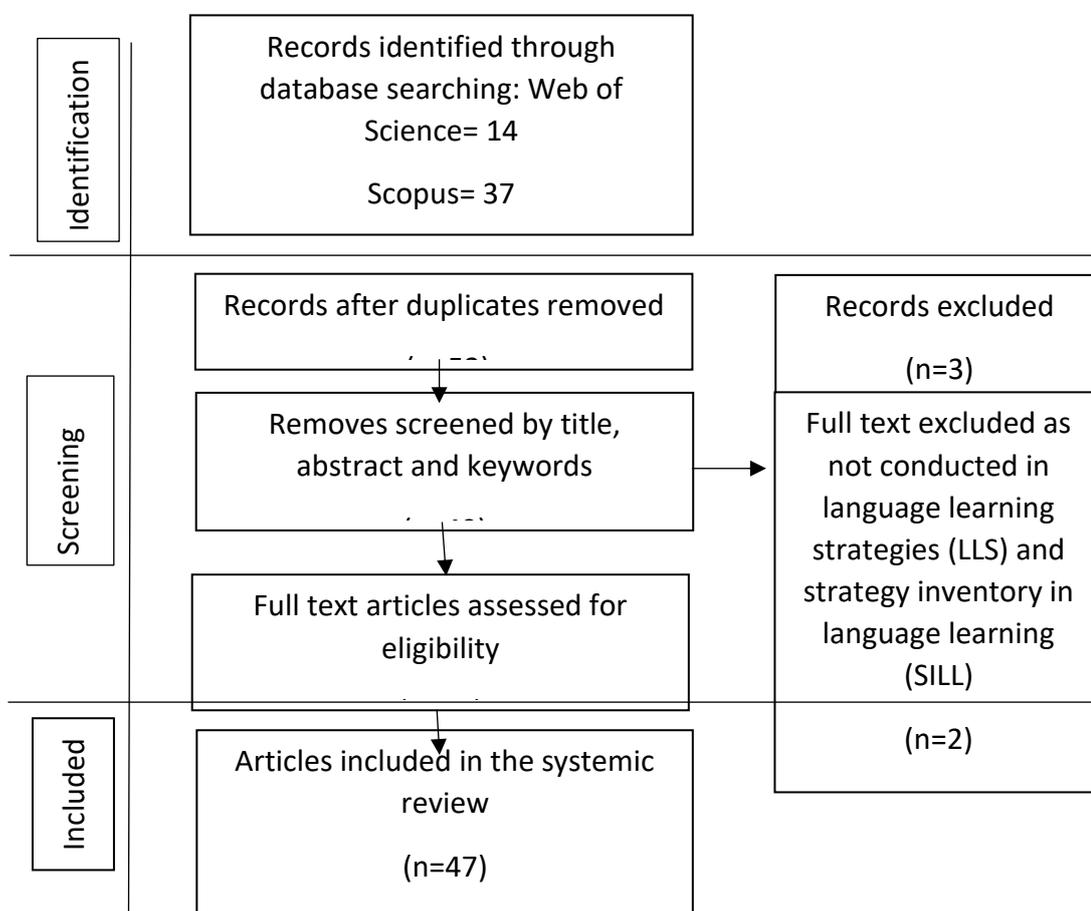
Figure 1: *Systematic review utilizing PRISMA modified from Page, Moher and McKenzie (2022)*

Identification

According to PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) criteria, the Identification process is the first step of a systematic literature review. Web of Science (WoS), Scopus, and the Educational Resources Information Centre are three kinds of databases that have been carefully chosen based on their relevance to the study's goal (ERIC).

The key phrases utilized in the systematic review were meticulously selected depending on the aims of the research to be evaluated. Included is key terminology pertaining to the language-learning practices used by ESL students to improve their English ability. The search string used for each selected database is shown in Table 1 below.

Table 1
The search term employed in this investigation.

Database	Search string
Web of Science (WoS)	TS = (("language learning strategies*" OR "LLS" OR "Strategy inventory for language learning (SILL)" OR "ESL learning strategies" OR "strategies in language learning" OR "strategies in enhancing English proficiency" OR "measurement of language learning strategies*") AND ("enhancing English proficiency*" OR "improving English proficiency *" OR "English proficiency *" OR "English in ESL classroom" OR "English as a second language*"))
Scopus	TITLE-ABS-KEY(("language learning strategies*" OR "LLS" OR "Strategy inventory for language learning (SILL)" OR "ESL learning strategies" OR "strategies in language learning" OR "strategies in enhancing English proficiency" OR "measurement of language learning strategies*") AND ("enhancing English proficiency*" OR "improving English proficiency *" OR "English proficiency *" OR "English in ESL classroom" OR "English as a second language*"))
ERIC	Strategies in language learning (SILL) and ESL

*: Search Term.

Screening

The Web of Science (WoS) database yielded a total of 14 publications when the search parameters were narrowed to include only open-access research published within the last decade (between 2013 and 2022). In the meanwhile, 37 publications from Scopus and 7 papers from the ERIC database were discovered after the systematic review's screening procedure based on inclusion and exclusion criteria. Upon first review, six duplicate articles were eliminated. In the second phase, 52 publications were screened based on the relevance of their titles, abstracts, and keywords to language learning strategy (LLS) and Strategy in Language Learning (SILL), resulting in the deletion of 3 records (i.e., book chapters, review articles, and conference proceedings) that were irrelevant to the objectives of this systematic review. Table 2 displays the inclusion and exclusion criteria throughout the duration of the screening procedure.

Table 2
The standards for inclusion and exclusion.

Inclusion criteria	Exclusion criteria
Research performed between 2013 and 2022 (10-year timespan)	Studies performed prior to 2013
Scholarly journal articles	Reports, book chapters, conference papers, and review articles
The document was written in English.	Non-English language text
Associated with the Language Learning Strategies (LLS) and the Strategy Inventory in Language Learning (SILL).	Not associated with Language Learning Strategies (LLS) and Strategy Inventory for Language Learning (SILL).

Based on the eligibility of the 49 full-text papers, two full-text studies were eliminated because they were not done in LLS and were unrelated to SILL. Following a thorough screening procedure, a total of 47 potentially suitable papers remained for inclusion in the systematic review.

Included
This systematic literature review examined the language learning techniques ESL students use to increase their English proficiency. Table 3 lists the studies covered.
On the basis of the foregoing data, 28 Scopus articles, 7 ERIC papers, and 11 WoS articles were chosen. The selection of these databases was based on the relevance, quality, and amount of their education-related articles. The aims and primary aspects of the research concentrated on the preferred language-learning strategies of ESL students. The majority of research was conducted at higher education levels, such as universities (Chang & Liu, 2013; Giang & Tuan, 2018; Kunasaraphan, 2015; Luo & Weil, 2014; Madhumathi et al., 2014; Shah et al., 2013; Rianto, 2020; Sadeghi, Balldag, & Mede; Set (Alharbi, 2015; Chan, 2014; Huang, 2015; Hou et al., 2014; Yi-An, 2013). Several studies have been conducted in schools, including elementary schools (Tjandra, 2021), urban schools (Ardasheva, 2016 ; Rusli, Hashim, & Md Yunus, 2019), high schools (Fernandez-Malpartida, 2021; Babikkoi & Abdul Razak, 2014; Liyanage & Bartlett, 2013), senior high schools (Sukirlan et al., 2020; Ismail & Yusoff, 2021).
In addition, pre-service teachers (Zhou & Intaraprasert, 2014), English teachers of education students (Intriago et al., 2017), working adult TESL learners (Hashim et al., 2018), and non-TESL learners (Chang & Liu, 2013; Giang & Tuan, 2018; Kunasaraphan, 2015; Luo & Weil, 2014; Madhumathi). The focus group for the current investigation is detailed in Table 4.

Table 3
Summary of the selected studies.

Study	Database	Aims	Samples	Findings
Alharbi (2015)	Scopus	The purpose is to discover English language learners' favourite Vocabulary Learning Methodologies (VLSs).	121 students	Cognitive
Ardasheva (2016)	Scopus	This statistical modelling study examined the relationships between language learning approaches and ELs' reading and math achievement.	805 students	Metacognition
Barrios (2015)	Scopus	This research explored the connection between reported method usage and English ability among prospective Spanish primary teachers of English.	116 student	Metacognitive

Table 3
Cont.

Study	Database	Aims	Samples	Findings
Babikkoi & Abdul Razak (2014)	Scopus	This study examined the relationship between parents' socioeconomic position and secondary school students' language-learning practises in Nigeria.	559 students	Social
Chang & Liu (2013)	Scopus	This study examines EFL university freshmen's language learning motivation and techniques.	EFL students	Compensation
Fernandez-Malpartida (2021)	Scopus, WoS	The research aimed to test students' English ability, evaluate how they use language-learning strategies, and gauge their opinion of online English instruction in Lima, Peru.	fifty students	Metacognitive

Chan (2014)	Scopus	The cultural sensitivity issue of SILL was explored to assess LLS use by nursing students.	208 students	Background, LLS use, and gender correlation.
Chou (2017)	Scopus, WoS	This research examines the relationship between students' English proficiency and its imoact on reading ability.	780 students	Students' English proficiency level affects students reading ability directly and indirectly.
Hashim et al (2018)	Scopus	This study identifies LLS use among ESL students.	10 learners	Cognitive, meta-cognitive, and socio-affective.
Fu, Machado & Weng (2018)	Scopus	To describe the LLS used by students.	132 students	Metacognitive, affective, and social.
Henriquez et al. (2017)	WoS	To improve students' oral production achievements .	10 students	Memory instruction and social tactics increased students' speech production, with memory strategies being more influential.

Table 3
Cont.

Study	Database	Aims	Samples	Findings
Jang (2017)	Scopus	The study to investigate students in L2 writing activity in the ESL classroom.	Korean children	Multiple conflicts and power relations in the ESL classroom created the backdrop for using, evaluating, or negotiating LLS.
Huang (2015)	Scopus	To investigate the relationship between LLS used and English proficiency.	103 students	Intermediates utilized more methods than beginners.
Danko & Dečman (2019)	WoS	This study examined the validity of the SILL (Oxford, 1990: 293-300).	225 students	Cognitive and metacognitive methods explain 58% of social learning. Certain SILL strategies are outdated owing

				to IT and language learning improvements.
Hou et al. (2014)	Scopus	To investigate students' learning styles, strategy use, and English performance.	121 students	Significant relationship between students' learning styles and LLS use.
Kunasaraphan (2015)	WoS	To assess students' use of six direct and indirect learning styles.	First year students	Students use six direct and indirect English learning methodologies, with varying degrees of competency.
Luo & Weil (2014)	Scopus	To investigate the frequency and types of LLS used.	65 students	Social and metacognitive
Giang & Tuan (2018)	WoS	To evaluate the LLS utilised by Vietnamese EFL freshmen and how their English competence affects their utilisation.	124 students	Effective language teaching and learning practises affect success.
Intriago et al. (2017)	Scopus	To identify the effectiveness of using Corrective Feedback (CF) supported on ICT	22 students	The findings showed that the participants incrementally improved their English proficiency.
Ismail & Nik Yusoff (2021)	WoS	To identify the relationship between LLS and the readability of form four KBD Arabic textbooks.	694 students	A weak significant positive relationship between LLS and readability of form four KBD Arabic textbooks among SABK students.

Table 3
Cont.

Study	Database	Aims	Samples	Findings
Kamalizad & Samuel (2015)	ERIC	To identify the effects of language proficiency on the strategy use of Iranian English learners across two different settings.	157 students	Significant relationship between SILL and the six strategy categories included in SILL.
Kasim et al (2019)	Scopus, WoS	To determine the differences in learning outcomes.	179 students	Only component A (brief talk) of the listening comprehension test and the main concept skill test showed significant differences.
Rahimah et al (2014)	Scopus, WoS	To report reviews on the perception in Web 2.0-based informal learning of ESL".	400 students	Students use learning strategies with Web 2.0 tools for their English informal learning.
Shah et al (2013)	ERIC	The study examined LLS patterns by gender, course, and undergraduate programme.	312 students	Different degree programmes used LLS differently. LLS and gender were not significantly related.
Madhumathi et al (2014)	Scopus	To examine the relationships between LLS, gender and English proficiency.	below average students	Lower perfomance by low achiever using less LSS as compared to frequent user of LLS.
Mohammadipour et al (2018)	ERIC	To determine the relationship between the use of LLS and positive emotions.	300 students	Positive emotions and language-learning strategies are correlated.
Nazri et al (2016)	ERIC	This study demonstrated the language learning methods utilized.	10 students	Successful language learners employ language learning methods frequently and more directly than indirectly.
Nazri et al (2016)	ERIC	This study demonstrated the language learning methods utilized.	10 students	Successful language learners employ language learning methods frequently and more directly than indirectly.

Sukirlan et al (2020)	Scopus	The current research concentrates on implicit strategy training for metacognitive techniques in an EFL environment in Indonesia.	37 students	Metacognitive strategies improved language learners' writing.

Table 3
Cont.

Study	Database	Aims	Samples	Findings
Montano-Gonzalez & Cancino (2020)	ERIC	The present study explored the relationship between these two constructs.	62 students	Motivation, emotion contributes to the high frequency of LLS.
Nazari & Warty (2018)	Scopus, WoS	To resolve the contradictory findings concerning the relationship between learners' English language learning strategies and their academic subject areas.	250 students	Academic exposure, instruction, learning styles, motivations, and household backgrounds influenced participants' decisions.
Rusli et al (2019)	Scopus	To seek out the ESL learning strategies used for writing skills by lower secondary students.	15 students	Preferred method-reading, producing a draft before writing, and also using a dictionary to acquire vocabulary.
Rabadi (2019)	WoS	To inspect the relationship between LLS use and their vocabulary size.	905 students	Metacognitive, cognitive, and social-affective methods were used most often.
Rao (2016)	Scopus	To investigate students' use of LLS and English proficiency.	A group of L2 students	Significant relationship between LLS used and level of proficiency.
Nguyen et al (2016)	Scopus	To examine the frequency and pattern of LLS use among students and to investigate the relationship between LLS use and self-rated English proficiency.	564 students	Learning strategies, and frequency of strategy use was positively correlated with self-reported English proficiency.

Rahimirad & Zare-ee (2015)	WoS	To investigate the impact of MetSI on EFL learners' listening self-efficacy.	Pre-test 60 students Post-test 40 students	The results of the present study confirm the effectiveness of teaching listening through MetSI.
Sukying (2021)	Scopus	To examine the LLS used and the relationship and the difference in LLS use across clusters of academic study.	1,523 students	LLS use varies, depending on individual differences and contextual factors.
Liyanage & Bartlett (2013)	Scopus	To identify the relationship between LLS use and personality.	learners of ESL	The study found variation in how personality traits influence LLS use.

Table 3
Cont.

Study	Database	Aims	Samples	Findings
Rianto (2020)	WoS	To determine the LLS use amon ESL learners.	329 students	Metacognitive strategies preferred. Significant differences in level of proficiency and gender in the LLS use.
Tjandra (2021)	Scopus	To research students' views of linguistic landscape (LL) and the impact of LL-based activities on language awareness, learning, identity negotiation, and belonging.	Children of English language learner (ELL)	Increasing multilingual signage improves ELL children's language awareness, feeling of identity, and incidental L1 and L2 acquisition.
Sadeghi et al (2021)	Scopus, WoS	To examine language-learning strategies and preferences.	152 students	The TOEFL iBT had little effect on students' motivation, regardless of proficiency.
Setiadi & Piyakun (2019)	Scopus	To assess students' English language competency and how they utilised English to boost their learning.	133 students	Students are very receptive.

Study	Database	Aims	Samples	Findings
Zhou & Intaraprasert (2014)	ERIC	To investigate the use of language learning strategy in relation to gender and traits.	836 teachers	Gender and personality affect pre-service teachers' overall, category, and individual approach utilisation.
Sheu et al (2013)	Scopus	To identify LLS use, listening proficiency and gender difference among EFL learners.	238 EFL non-English learners.	High GEPT performers reported employing each of the six subcategories of techniques much more often than low achievers.
Yi-An (2013)	Scopus	To investigate the relationship between LLS use and English achievement.	436 students	Compensation and memory methods improve English proficiency.
Zhou & Intaraprasert (2014)	ERIC	To investigate the LLS use and the relation to their gender and personality types.	836 teachers	The results revealed that gender and personality types have some effects on pre-service teachers' strategy use at the overall, category and individual levels.

Table 3
Cont.

Study	Database	Aims	Samples	Findings
Shakarami, Hajhashemi & Caltabiano (2017)	ERIC	The research reveals Net-Generation learners' SILL approach preferences and probable compensatory measures.	"Net-Generation" learners	The findings show that Net-Geners utilise various compensating tactics to compensate for their knowledge gap and improve their ESL learning.
Xuan, Razali & Samad (2018)	Scopus	To study self-directed learning readiness (SDLR) techniques and ESL impacts.	First-semester Foundation students	Results showed that respondents are ready to use self-directed English learning methodologies.

Table 4
The focus group of learners in the current studies

Trends	Examples
Schools	Junior (Tjandra, 2021)
	Urban schools (Ardasheva, 2016; Rusli et al., 2019)
	High Schools (Fernandez-Malpartida, 2021; Babikkoi & Abdul Razak, 2014;; Liyanage & Bartlett, 2013)
	Senior High Schools (Sukirlan et al., 2020)
	Religious School (Ismail & Yusoff, 2021)
Colleges	(Alharbi, 2015; Chan, 2014; Huang, 2015; Hou et al., 2014 ; Yi-An, 2013)
	Pre-service teachers (Zhou & Intaraprasert, 2014)
	Adult learners of TESL (Hashim et al., 2018)
	English teacher of education undergraduates (Intriago et al., 2017)
Universities /Institutions	Non-TESL learners (Chang & Liu, 2013; Giang & Tuan, 2018; Kunasaraphan, 2015; Luo & Weil, 2014; Madhumathi et al., 2014 ; Nazri et al., 2016; Shah et al., 2013; Rianto, 2020; Sheu, Wang, & Hsu, 2013; Sukying, 2021)
	Undergraduate learners of English (Rahimirad & Zare-ee, 2015)
	Graduates of education studies (Sadeghi et al., 2021; Setiadi & Piyakun, 2019)
	ESL Net-Geners (Shakarami et al., 2017)
Not specified	(Fu et al., 2018; Danko & Decman, 2019; Kamalizad & Samuel, 2015; Kasim et al., 2019 ; Ida Rahimah et al., 2014 ; Mohammadipour et al., 2018 ; Montano-González & Cancino, 2020 ; Nazari & Warty, 2018 ; Nguyen et al., 2016 ; Xuan 2018; Chou, 2017; Henriquez et al., 2017; Jang, 2017; Rabadi, 2019; Rao, 2016; Barrios, 2015)

Data Analysis Procedure
A referencing software, Mendeley, was used in analysing all the selected articles. Data analysis were done thematically to answer the following research questions:
1. What are the language learning strategies (LLS) use by ESL learners based on the current studies?
This systematic review analysed the articles elucidatively, thematically for the research questions. The themes were categorized based on the types of language learning strategies (LLS) as discussed in the literature review to answer the first research question. The types of learning strategies mentioned in each of the articles were classified into two main strategies, i.e. direct strategies and indirect strategies, of learning strategies. Findings from the articles are discussed at the next section.

Results
3.1. (RQ1): What are the language learning strategies (LLS) used by ESL learners based on the current studies?
This systematic study categorizes language learning techniques (LLS) into two major approach groups: (1) direct strategy and (2) indirect strategy, and identifies the primary forms of LLS for each group: memory strategies, cognitive strategies, compensating strategies, metacognitive strategies, emotional strategies, and social strategies.

Not specified category is for other than the LLS mentioned earlier. These categories originated from an examination of the journal papers and were classed as such in order to better classify the primary kinds of preferred language learning tactics used by learners to improve their English proficiency. Table 5 (below) illustrates the kind of classification utilised for each article in this research.

Table 5
Language learning strategies (LLS) use by ESL learners based on the current studies

Strategy	Type	Examples
Direct strategy	Memory	(Henriquez et al., 2017)
	Cognitive	(Alharbi, 2015; Nguyen et al., 2016; Setiadi & Piyakun, 2019; Xuan et al., 2018 ; Rao, 2016)
	Compensation Strategies	(Chang & Liu, 2013; Huang, 2015; Sheu et al., 2013; Shakarami et al., 2017)
Indirect strategy	Metacognitive strategies	(Chang & Liu, 2013; Fernandez-Malpartida, 2021; Nazri et al., 2016; Rahimirad & Zare-ee, 2015; Rianto, 2020; Ardasheva, 2016; Ardasheva, 2016; Rabadi, 2019; Sukirlan et al., 2020; Barrios, 2015)
	Affective strategies	(Sadeghi et al., 2021; Sukying, 2021)
	Social strategies	(Shah et al., 2013; Montano-Gonzalez & Cancino, 2020; Babikkoi & Abdul Razak, 2014)
More than one strategies	Metacognitive strategies, social strategies	(Fu et al., 2018; Mohammadipour et al., 2018)
	Compensation strategies, cognitive strategies, metacognitive strategies	(Danko & Decman, 2019)

Table 5
cont.

More than one strategies	Memory strategies, compensation strategies, affective strategies, social strategies	(Madhumathi et al., 2014)
	Cognitive strategies, metacognitive strategies, memory strategies, social strategies	(Nazari & Warty, 2018)

(Yi-An, 2013) |
| | Memory strategies, compensation strategies | (Zhou & Intaraprasert, 2014) |

	Cognitive strategies, affective strategies	(Hashim et al., 2018)
	Cognitive strategies, metacognitive strategies, social strategies	
Not Specified	(Chan, 2014; Giang & Tuan, 2018; Hou et al., 2014; Kasim et al., 2019; Ida Rahimah et al., 2014 ; Mohammadipour et al., 2018 ; Babikkoi & Abdul Razak, 2014; Jang, 2017; Ismail & Yusoff, 2021; Liyanage & Bartlett, 2013; Rusli et al., 2019; Tjandra, 2021)	

According to Table 5, 10 publications demonstrated that the direct technique is the most popular among ESL students. The direct approach, comprised of memory techniques, cognitive strategies, and compensating strategies, was shown to be the preferable method in language learning according to the present investigations. The writers of papers (Alharbi, 2015; Nguyen et al., 2016 ; Setiadi & Piyakun, 2019 ; Xuan et al., 2018 ; Rao, 2016) referred to cognitive techniques as the ideal approach to language learning. Similarly, reference (Henriquez et al., 2017) revealed that language learners favored direct strategies, especially memory strategies. On the other hand, other researchers (Chang & Liu, 2013; Huang, 2015; Sheu et al., 2013; Shakarami et al., 2017) reported that learners used compensation mechanisms often and had favorable views about the learning process.

This systematic review also includes indirect techniques, which include metacognitive strategies, emotional strategies, and social strategies. According to ten papers included in (Chang & Liu, 2013; Fernandez-Malpartida, 2021; Nazri et al., 2016; Rahimirad & Zare-ee, 2015; Rianto, 2020; Ardasheva, 2016; Rabadi, 2019; Sukirlan et al., 2020; Barrios, 2015), metacognitive methods were the most prevalent among learners. Similarly, the publications claimed that learners' proficiencies were among the most important considerations in the selection of LLS and that they were educated to utilize the methods explicitly. Moreover, according to two publications (Sadeghi et al., 2021; Sukying, 2021), emotive methods are the favored LLS among learners. In contrast, three papers (Shah et al., 2013; Montano-Gonzalez & Cancino, 2020; Babikkoi & Abdul Razak, 2014) indicated that social methods were the preferred LLS among learners, regardless of their competence levels.

In spite of this, eight publications in this systematic review reported the usage of multiple LLS by learners. Two papers (Fu et al., 2018; Mohammadipour et al., 2018) revealed that effective learners commonly use metacognitive and social methods.

In contrast, compensating techniques, cognitive strategies, and metacognitive methods in the article (Danko & Decman, 2019) were observed to be regularly used by learners regardless of competence level. However, the authors noted that the SILL was out of date and required some revisions to make them compatible with language learning and technology in the twenty-first century.

In contrast, according to the authors of reference (Madhumathi et al., 2014), the majority of learners favored memory techniques, compensating strategies, emotional strategies, and social strategies above other LLS. In addition, the papers revealed that only successful students favored metacognitive and cognitive methods, and the proportion was lower than the frequency of the four techniques.

In addition, writers in reference (Nazari & Warty, 2018) claimed that cognitive strategies, metacognitive strategies, memory strategies, and social strategies were the favored LLS among learners. According to the paper, the kind of academic exposure, academic teaching, learning styles, motives, and household backgrounds are among the primary determinants of LLS choosing.

However, according to Yi-An (2013), memory methods and compensatory strategies were the most popular LLS among learners. The authors explained that the learners' selection of LLS was determined by their English proficiency.

In contrast, Zhou and Intaraprasert (2014) claimed that cognitive and emotive methods were the favored LLS among learners. The authors described how gender and personality affected the overall selection of LLS candidates.

However, according to Hashim et al (2018), learners typically use cognitive techniques, metacognitive strategies, and social strategies. The authors stated that competency and accomplishment of learners were among the most important elements in selecting LLS.

Therefore, language learners with a higher competency level used direct techniques more often than their peers. In addition, as indicated in all of the articles in the present research, learners were impacted by the type of their educational background, their educational requirements, institution expectations, their motivations, and their awareness of the appropriate use of LLS in language acquisition. Some writers asserted that language learners were not completely aware of the LLS in language acquisition, resulting in a lack of LLS application knowledge.

Other research (Chan, 2014; Giang & Tuan, 2018; Hou et al., 2014 ; Kasim et al., 2019; Ida Rahimah et al., 2014; Mohammadipour et al., 2018; Babikkoi & Abdul Razak, 2014; Jang, 2017; Ismail & Yusoff, 2021; Liyanage & Bartlett, 2013; Rusli et al., 2019; Tjandra, 2021) did not identify the LLS usage by learners explicitly, but nonetheless focused on the LLS use by learners and the association with other variables. According to Chan (2014), there were substantial variations in learner background, LLS usage, and gender. In contrast, Giang and Tuan (2018) claimed that the most influential aspects of teaching and learning are LLS's effectiveness. According to Hou et al (2014), English learners' performance was impacted by their learning styles and tactics. In contrast, according to the results of the research by Kasim, Muslem and Mustafa (2019), there were statistically significant disparities in the learning outcomes of students enrolled in various programs at the same institution, despite their low level of English proficiency. In addition, another research Rahimah et al (2014) indicated that the majority of English language learners employed Web 2.0 technologies for informal learning. In contrast, Mohammadipour et al (2018) found a strong association between emotions and total LLS used, with a wider variety of LLS employed when positive emotions were present and vice versa. Nonetheless, Babikkoi and Abdul Razak (2014) revealed a significant relationship between socioeconomic background and the selection of cognitive, metacognitive, social, situational, and religious strategies, whereas there was no correlation between socioeconomic background and the preference for memory and compensation strategies to learn English. In contrast, one investigation (Jang, 2017) indicated that the primary determinants of LLS preference were impacted by numerous conflicts and related power dynamics in the ESL classroom. In another research by Ismail and Yusoff (2021) found that the use of LLS was at a modest level and that there was a weak positive correlation between LLS and the readability of learners. The writers were dismayed by the low level of Arabic textbook reading among students. Nonetheless, a research by Liyanage and Bartlett (2013) demonstrated that personality factors may impact the individual LLS choices of ESL learners.

In addition, a study by Rusli et al (2019) found that effective language learners favor strategies such as reading, drafting before writing, and utilizing a dictionary to gain vocabulary. Nonetheless, according to Tjandra (2021), enhancing multilingual signage improves the language awareness of ELL children, promotes their feeling of identification and belonging, and generates possibilities for L1 and L2 incidental language acquisition.

Knowing the primary determinants of LLS preferences in the present research would aid in identifying the gap and the primary emphasis of LLS in boosting English proficiency among ESL learners. Based on the examination of the data, most of the publications that condense LLS use found that indirect strategies were the most popular among learners. The results were thus substantial.

Discussion

In this study, the findings highlight the LLS formats ESL students utilise to enhance their English. The research found that LLS improves ESL language-learning. LLS is direct and indirect. ESL students preferred indirect approaches over direct ones, according to the study. In these studies, most learners employed several techniques. The LLS selection process is vital for understanding its function in language acquisition. Hashim, Yunus, and Hashim (2018) recommended using LLS in some applications. Therefore, the language-learning technique should be customised. This technique is key to achieving the learning goal.

LLSs are more common in urban, religious, junior, senior, and high school colleges, universities, and institutes. This research shows ESL students utilise LLS. Future LLS study should focus on speech, vocabulary, writing, and dictionary use.

The research did not examine the links between variables that influence LLS usage in language acquisition. Proficiency, aims, emotions, personality characteristics, education, and socioeconomic status affect LLS usage. An ESL research on LLS use may be extrapolated to other language learners.

Conclusions

This systematic study examined LLS and ESL pupils' English competence. No comprehensive review of LLS utilisation among ESL learners exists. From 2013 to 2022, 47 final publications were collected from 58 using Web of Science (WoS), Scopus, and ERIC's exclusion and inclusion criteria. The findings show the following trends in ESL LLS.

1. Language learning techniques (LLS) are divided into direct and indirect categories, including memory, cognitive, compensatory, metacognitive, emotional, and social strategies in each. Not defined is anything but the LLS. These categories were constructed using a survey of journal publications to define learners' favourite English proficiency-improving language learning practises.

2. Most of the research was done at universities, with 17 university/college papers and 5 college papers. Several schools were investigated, including a junior high, two urban schools, three high schools, one senior high school, and a religious-background institution.

3. Pre-service teachers, English teachers of education students, working adult TESL learners, non-TESL learners, undergraduate English learners, education studies graduates, and ESL Net-Generations are the study's focal group.

ESL learners utilise direct and indirect LLS, according to statistics. Only eight studies found that language learners employ several techniques. In most research, language learners employed a single approach. This notion allows L1-L3 LLS to be introduced and promoted (Hashim et al., 2018). This study shows that LLS is important, thus educators may benefit from more research.

The study doesn't go deeply enough into the elements that impact LLS use in language learning. LLS usage is impacted by proficiency, objectives, emotions, personality traits, education, and socioeconomic level. Thus, LLS research on ESL learners may be applied to other language learners. This constraint gives insight on how LLS should be utilised in different language learning settings and English language skills developed, i.e. speaking, listening, grammar, vocabulary acquisition, and dictionary usage abilities. Additionally, characteristics that impact LLS utilisation in language learning might be studied. This systematic review contributes to LLS's utility in improving English, despite its limitations. This work fills a knowledge gap in promoting effective learning using LLS in lifelong learning, which may be crucial to reaching the fourth Sustainable Development Goal (SDG 4).

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