Factors Related to EFL/ESL Readers' Reading Strategy Use:
A Literature Review

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ABSTRACT

This Article systematically reviews the use of reading strategies among college-level English as a foreign/second language (EFL/ESL) learners and its relationship with two non-cognitive factors: gender and motivation. The author reviews empirical studies published from 2000 to 2017 in order to answer two research questions: (a) What gender disparities exist in college-level EFL/ESL learners' use of reading strategies? (b) How do motivation factors relate to college-level EFL/ESL learners' use of reading strategies? Findings indicate that: (1) motivation factors, including achievement goals, interest in reading, and self-efficacy, positively relate to reading strategy use. (2) gender has an influence on strategy use and female readers show higher use of reading strategies. (3) Interaction effects among factors exist. EFL/ESL learners' strategy use is shaped by multiple factors jointly.

KEYWORDS

EFL/ESL, reading strategy use, gender, motivation

1. INTRODUCTION

For college-level learners of English as a foreign/second language (EFL/ESL), reading ability is a very important component of academic language proficiency. It highly correlates with these learners' overall academic achievement. EFL/ESL readers use a complex battery of reading strategies to make their reading processes easier, faster and more effective (Poole, 2005a). Examples of commonly used reading strategies include decoding unknown words, using background knowledge, skimming for main ideas, and monitoring comprehension.

However, ESL/EFL readers with different backgrounds vary a lot in strategy use both quantitatively and qualitatively. Examining variations in strategy use and underlying factors will expand our understanding of ESL/EFL readers' reading processes and difficulties. These investigations will also suggest important pedagogical recommendations and improve English language teaching. As compared with cognitive or linguistic factors relating to reading strategy use, non-cognitive factors, such as gender and motivation, are less commonly investigated. In addition, while there have been a number of empirical studies examining how these two factors relate to variations in strategy use, very little literature has analyzed and synthesized existing findings systematically. The current study aims to fill in these gaps.

This article aims to answer two research questions: (a) What gender disparities exist in college-level EFL/ESL learners' use of reading strategies? (b) How do motivation factors relate to college-level EFL/ESL learners' use of reading strategies? The significance of this literature review study lies in that: (1) while individual empirical studies focus merely on one or two factors, this literature review study touches on multiple factors as well as the interaction effects among them; (2) through examining similarities and disparities among research findings, this article extracts conclusions well supported by the majority of studies; (3) based on a comprehensive review of existing literature, the article points out deficiencies of previous studies and suggests directions for future researchers; (4) this article also suggests pedagogical recommendations which are applicable in EFL/ESL reading class. In sum, this literature review study is of importance and utility to EFL/ESL research and teaching.

This article starts with a brief introduction to some background knowledge regarding reading strategies, including definitions, taxonomies, reading strategy research methodology, and factors which influence strategy use. The following section illustrates how to identify and screen related empirical studies. Then, the third section categorizes identified studies according to their focuses and provides a brief review of each study. While the third section focuses on analyzing individual studies separately, the fourth section makes comparison and synthesis across studies. Finally, conclusions and pedagogical implications are generated.

1.1 Reading Strategy: Definitions and Taxonomies

Reading strategies are deliberate, goal-directed attempts to control and modify the reader's efforts to decode text, understand words, and construct meaning of text (Afflerbach, Pearson, & Paris, 2008, p.15). Previous studies (Block, 1986; He, 2008; Lee-Thompson, 2008; Mokhtari & Shoerey, 2002; O'Malley & Chamot, 1990; Oxford, 1990; Wenden, 1991) identified reading strategies or learning strategies used by language learners. These studies also generated taxonomies of strategies from different perspectives. Table 1 shows several types of taxonomies as well as the definitions and examples for each category.

It should be noticed that the investigation regarding language learning strategies, especially reading strategies, is still in its very early stage. Researchers have not reached agreement concerning the classification of some strategies. In addition, classification conflicts are inevitable and a large overlap naturally exists among the strategy groups (Oxford, 1990). However, the process of constructing strategy taxonomies has further deepened our overall understanding of the nature and features of each strategy.

1.2 Reading Strategy: Research Methodology and Instruments

Research methodology widely used in reading strategy studies includes using Likert-scale reading strategy questionnaires, think-aloud protocols, interviews, semi-structured interviews, portfolio entries. One commonly used reading strategy questionnaire is *Metacognitive-Awareness-of-Reading–Strategies Inventory (MARSI)* (Mokhtari, 1998-2000) which classifies reading strategies into three categories: global, problem-solving, and support strategies. Based on *MARSI* (Mokhtari, 1998-2000), Mokhtari and Shoerey (2002) developed another very widely used reading strategy survey, *Survey of Reading Strategies (SORS)*. This survey measures how frequently each reading strategy is used by a five–point Likert scale ranging from 1 ("I never or almost never do this") to 5 ("I always or almost always do this"). *SORS* (Mokhtari & Shoerey, 2002) adopted the same taxonomy as *MARSI* (Mokhtari, 1998-2000). In addition to these two published reading strategy questionnaires, researchers also wrote their own questionnaire for specific studies based on a thorough review of previous research. For instance, Tsai, Ernst, and Talley (2010), based on previous studies, developed a Liker-scale questionnaire which covered 36 strategy items belonging to five categories.

Think-aloud protocols are also widely used to study ESL/EFL readers' use of reading strategies. Basically, participants read assigned articles and verbalize aloud how they use reading strategies either simultaneously or retrospectively. This technique gives researchers insight into the participants'

Table 1. Strategy taxonomies and Definitions

Research	Taxonomy	Definition	Examples
Block (1986); Lee-Thompson (2008)	(a) Bottom-up Strategies	Bottom-up strategies are also referred to as local or language-based strategies. They focus on word recognition, decoding, syntax or text details and attend to lower level linguistic units.	Breaking words into smaller units, using syntactic knowledge, and scanning for specific details
	(b) Top-down Strategies	Top-down strategies are also called global or knowledge-based strategies. They focus on higher level cues and are primarily applied to integrate information to gain a holistic understanding of larger portions or entire texts	Using background knowledge, recognizing text structure, and predicating
Mokhtari & Shoerey (2002)	(a) Global Strategies	Global reading strategies include 13 strategies which readers use to monitor or manage their reading.	Having a purpose in mind, using tables and typographical aids, and previewing the text
	(b) Problem-Solving Strategies	Problem-solving strategies are techniques which are used when readers encounter challenges in reading.	Guessing the meaning of unknown words, rereading the text, adjusting one's speed of reading.
	(c) Support Strategies	Support strategies are supportive techniques used to aid the reader in understanding the text.	Using a dictionary, taking notes, underlying, highlighting
O'Malley & Chamot (1990)	(a) Cognitive strategies	Cognitive strategies relate to readers' using of mental processes to construct meaning from the text.	Deducing, elaborating, rehearsing, and summarizing
	(b) Metacognitive strategies	Metacognitive strategies refer to readers' knowledge on how to monitor, modify, regulate, and execute their cognitive reading processes.	Monitoring comprehension, setting goals and objectives, identifying the purpose of a task, selective or directed attention
	(c) Social/ affective strategies	Social/affective strategies represent a group of strategies involving the interaction between readers and other persons while affective strategies refer to strategies which involve the readers' control over affect.	Working with peers, self-talk, asking for correction, asking for clarification or verification
Oxford (1990)	(a) Cognitive strategies (b) Metacognitive strategies (c) Social/ affective strategies	Same as O'Malley & Chamot (1990)	
	(d) Memory strategies	Memory strategies help learners to store and retrieve new information.	Using imagery, keywords, or semantic mapping to facilitate the storage and retrieval of new information.
	(e) Compensation strategies	Compensation strategies are used to make up for inadequate repertoire of grammar and vocabulary.	Guessing based on linguistic clues or other clues is a commonly used compensation strategy.

reading strategy use. It makes thought processes as explicit as possible. The think-aloud or oral recall are often audio- and video-recorded. Verbalizations are then transcribed, coded, and analyzed. Besides think-aloud protocols, interviews and semi-structured interviews also can elicit verbal data on reading strategy use.

In addition, some researchers collect data through requesting participants to write diary or portfolio entries. For instance, Ikeda and Takeuchi (2006) required participants to make portfolio entries on strategy learning every week. Through qualitative analysis of portfolio entries, researchers tracked how participants learned and practiced using reading strategies.

1.3 Factors Relating to Reading Strategy Use

Oxford (1990) provided a very comprehensive list of the factors influencing general language learning strategy use. She included degree of awareness, stage of learning, task requirements, teacher expectation, age, sex, nationality/ethnicity, general learning style, personality traits, motivation level, and the purpose for learning in her list. However, Oxford (1990) did not focus on EFL/ESL reading. The nature of reading comprehension is different from the nature of other language skills both cognitively and metacognitively. People use different strategies when they read, listen, write, and speak. The distinctive nature of the reading process determines that factors influencing reading strategy use may be different from factors influencing general language learning strategy use. There are some empirical studies investigating single factors which relate to EFL/ESL reading strategy use, including EFL/ESL proficiency, L1 background, gender, and some motivation factors. However, to deepen our understanding of this topic, a literature review study is needed to make comparison, synthesis, and evaluation of existing empirical research. It is also very essential to explore interaction effects among these individual factors and how they shape strategy use jointly.

2. METHODOLOGY

Two research questions have guided this review: (a) What gender disparities exist in college-level EFL/ESL learners' use of reading strategies? (b) How do motivation factors relate to college-level EFL/ESL learners' use of reading strategies?

To locate empirical studies that addressed these research questions, the author searched the Linguistics and Language Behavior Abstracts (LLBA) and Education Resource Information Centre (ERIC) databases. LLBA and ERIC are two major databases for foreign language education research. The LLBA database indexes and abstracts journal articles drawn from more than 1500 serials publications. It provides access to the international literature in linguistics and language sciences. ERIC is a comprehensive database of education research and information sponsored by the U.S. Department of Education. Currently, more than 1000 journals are indexed in ERIC. By using two databases instead of one, the author is able to identify an exhaustive set of related articles.

The author used the following descriptors: EFL/ESL, reading strategies, college/university. Since this review is exploratory in nature, the author used only three broad keywords to make sure that all related studies could be identified. To get the most recent research findings, only peer reviewed journal articles published after 2000 are included. Due to its global vision, this article only reviews studies published in English. In total, 65 studies from LLBA and 43 studies from ERIC were identified and reviewed.

Once these studies had been identified, the author read each one to decide whether to include it or not. Since the purpose of this research is to study how gender/motivation factors relate with EFL/ESL readers' strategy use, the following types of studies were excluded: (1) studies that focus on the effect and procedure of strategy training without further analyzing factors that influence strategy training effect; (2) studies that only investigate the effect of strategies on reading comprehension; and, (3) studies which aim to build up an inventory of strategies used by ESL/EFL readers.

Table 2. Topics and contexts in reviewed studies

Source	Theme	Focus	Participants' L1	Context	Reading Strategies Investigated	Data Collection Method
Poole (2005 a)	Gender and EFL/ESL reading strategies	The similarity and differences in using reading strategies between female and male ESL learners	Various non-English languages	248 ESL students from all around the world enrolled in six American universities	30 reading strategies: global (13 items), problem-solving (8 items), and support strategies (9 items).	*SORS* (Mokhtari & Shoerey, 2002)
Poole (2005 b)	Gender and EFL/ESL reading strategies	The gender differences of academic reading strategies	Mandarin Chinese	328EFL university students in Mainland China	30 reading strategies: global (13 items), problem-solving (8 items), and support strategies (9 items).	*SORS* (Mokhtari & Shoerey, 2002)
Poole (2009)	Gender and EFL/ESL reading strategies	The gender differences of academic reading strategies	Spanish	352 low to intermediate EFL Colombian university students	30 reading strategies: global (13 items), problem-solving (8 items), and support strategies (9 items).	*SORS* (Mokhtari & Shoerey, 2002)
Meniado (2016)	Motivation and EFL/ESL reading strategies	The relationship between motivation and reading strategy use	Arabic	43 college-level Saudi EFL students enrolled in a beginning-level EFL class	30 reading strategies: global (13 items), problem-solving (8 items), and support strategies (9 items).	*SORS* (Mokhtari & Shoerey, 2002)
He (2008)	Achievement goals and EFL/ESL reading strategies	The effects of achievement goals on EFL college students' reading strategy use and reading comprehension	Chinese	57 EFL learners from a university in Taiwan	Five categories of reading strategies: comprehension within individual sentences (CIS), comprehension within individual paragraphs (CIP), comprehension across paragraphs (CAP), using background knowledge (UBK), and monitoring/evaluating comprehension (MEC)	Think-aloud protocol
Shang (2010)	Self-efficacy and EFL/ESL reading strategies	The relationship between EFL learners' perception of self-efficacy and their use of reading strategies	Chinese	17 male and 36 female college EFL learners in Taiwan	44 reading strategy items belonging to three categories: cognitive, metacognitive, and compensation strategies	Self-developed Likert-scale survey
Li & Wang (2010)	Self-efficacy and EFL/ESL reading strategies	The relationship between EFL learners' perception of self-efficacy and their use of reading strategies	Chinese	182 college EFL students in mainland China	48 reading strategy items belonging to three categories: cognitive, metacognitive, and social/affective strategies	Likert-scale survey

ESL/EFL learners are a large population with great diversity. Young learners and adults differ in second language acquisition in many ways. In addition, ESL/EFL educators, the primary readers of this article, most often concentrate on one phase or level. The strength of the current review is that it is focused on one population: college-level and postgraduate adult learners. Studies on K-12 learners will be reviewed in another article. Lastly, traditional reading and computer-based reading are different from each other. To avoid the influence of extraneous variables, this literature review research only includes studies on traditional reading. Studies on online reading or computer-based reading are not included.

Overall, seven studies meet the selection criteria. Six studies collected data in non-English speaking regions and the remaining one collected date from English speaking countries. EFL/ESL participants' first languages include Mandarin Chinese, Arabic, Spanish, and other languages. More specific information regarding the research focus, participants' first languages, and context can be found in Table 2.

The author first read each of the selected articles to identify the parts which addressed the two research questions. While all reviewed studies investigated this topic, not all studies focused on it exclusively. Some studies also touched on other aspects of reading, such as anxiety, attitude, and reading comprehension achievement. For these studies, only findings directly related to the relationship between gender/motivation and reading strategy use were reviewed in detail.

The author reread these articles and summarized findings that answered the two research questions. The author also combined factors that were named differently but were relatively identical in nature. For example, He (2008) studied the interplay of achievements goals and reading strategy use and another two studies (Li & Wang, 2010; Shang, 2010) studied the relationship between self-efficacy and reading strategy use. These three studies investigated reading strategy use from a motivational perspective. The author put them under one category: motivation factors.

Terms EFL and ESL are often used when talking about the learning of English as a second or foreign language. English as a second language (ESL) refers the use or study of English by speakers whose first languages are not English. English as a foreign language (EFL) refers the use or study of English in a non-English-speaking region. The terms EFL and ESL are sometimes used interchangeably because an overlap exists. Studies reviewed in this article mostly investigated English learners in non-English-speaking regions. A few reviewed studies investigated ESL learners in English-speaking countries. In some studies, participants could be classified as both EFL and ESL learners. To avoid confusion, the author used the term EFL/ESL learners hereafter to refer to learners who learn English as their non-native language. The following section reports findings about the relationship between college-level EFL/ESL learners' strategy use and two non-cognitive factors: gender and motivation.

3. FINDINGS

3.1 Gender

Gender difference has been a hot topic in second language acquisition research. Three studies (Poole, 2005 a; Poole, 2005 b; Poole, 2009) discussed the relationship between gender and strategy use. Poole (2005 a) examined the gender differences in using reading strategies among advanced level ESL learners. Female and male ESL readers showed no significant differences in overall strategy use. They also did not differ significantly on using any of the three categories of reading strategies. They only differed on using two of the 30 strategy items. Female readers used *noting text characteristics*, a global strategy, significantly more frequently than male readers. Male readers used *paying close attention to reading*, a problem-solving strategy, more frequently than females. Findings of Poole (2005 a) suggested that advanced EFL readers' strategy use was primarily influenced by factors other than gender.

However, Poole's (2005b) findings suggested the opposite: females' overall use of strategies was significantly higher than that of males. On all three subcategories (global strategies, support strategies, and problem-solving strategies), females' strategy use was significantly higher than that of males. With regard to the individual strategies, female readers used these 18 out of 30 strategies more frequently than male readers. Poole (2009) yielded similar results: females' overall strategy use was significantly higher than that of males. In addition, females used problem-solving and support categories of reading strategies significantly more frequently than males. Females also used the following eight individual reading strategies significantly more frequently than males: *taking notes, using dictionaries, translating, reading aloud when text gets difficult, reading slowly and carefully to make sure of understanding, underlining or circling information to help memory, paying closer attention when text gets difficult, using typographical features to identify key information.*

3.2 Motivation Factors

Motivation factors such as achievement goals, interest in reading, and self-efficacy relate to EFL/ESL reading strategy use (He, 2008; Li & Wang, 2010; Meniado, 2016; Shang, 2010). He (2008) investigated how EFL learners with different achievement goals differed in using reading strategies. He (2008) used a think aloud protocol to unpack participants' reading strategy use. Through analyzing participants' stimulated recall, 23 reading strategies were identified and classified into five categories. The results of stimulated recall indicated that participants with strong mastery and strong performance (SMSP) goals used intra-sentential, inter-paragraph, intra-paragraph and monitoring/evaluating strategies significantly more frequently than did other participants. Participants with strong mastery but weak performance (SMWP) goals utilized these strategies less often than the SMSP group but still more often than those participants with weak mastery but strong performance goals (WMSP). Performance goal correlated negatively with the use of intra-paragraph, inter-paragraph, and monitoring/evaluating strategies (He, 2008). The strong-mastery-strong-performance goal profile was also a significant, positive predictor for degrees of reading comprehension.

Reading motivation is defined as the interest or desire to read for various reasons or purposes (Hermosa, 2002). Meniado (2016) studied the relationship between reading motivation and reading strategy use. Students' motivation in reading was evaluated through a researcher-made inventory composed of 42 Likert-scale items. *SORS* (Mokhtari & Shoerey, 2002) was adopted to measure participants' strategy use. Correlation analysis was used to examine the relationship between the use of reading strategies and reading motivation. Findings revealed that there is positive correlation between reading strategies and reading motivation. When students were highly motivated to read, they were more persistent in using a variety of reading strategies.

Reading self-efficacy refers to learners' perceptions of their abilities to perform various reading tasks. Learners with high perception of self-efficacy are more confident of their abilities to perform various reading tasks as compared with low self-efficacy learners. Reading self-efficacy may produce much impact upon readers' overall orientation toward the reading comprehension process and achievement (Henk & Melnick, 1995). Two studies (Shang, 2010; Li & Wang, 2010) explored the relationship between reading self-efficacy and the use of reading strategies. They investigated reading self-efficacy from a motivational perspective and studied reading strategies from a cognitive perspective.

Shang (2010) studied Taiwanese EFL learners' use of three categories of reading strategies (cognitive, metacognitive, compensation strategies), their perception of self-efficacy, and the relationships between self-efficacy and strategy use. Results indicated that all categories of reading strategies were significantly correlated with self-efficacy. Students with higher perception of self-efficacy tended to use reading strategies more frequently. In other word, students who reported more frequent strategy use tended to be more confident and had more control over their reading.

Li and Wang (2010) explored the relationship between self-efficacy and reading strategy use among 182 sophomore English majors in a university in China. The results showed that reading self-efficacy was significantly positively related to the use of overall reading strategies and the use of three subcategories of reading strategies. This finding echoed findings from previous research (Magogwe & Oliver, 2007; Wong, 2005; Zhang, 2004; Shang, 2010).

4. DISCUSSION

The relationship between gender/motivation factors and strategy use is not transparent in nature. This section takes a closer look at this topic. The author contrasts and synthesizes findings across individual studies, highlights consistent findings and analyses disparities among studies, and finally extracts a conclusion and pedagogical implications which are well-supported by the majority of studies in the following sections.

4.1 Gender Disparities in EFL/ESL Reading Strategy Use

Two reviewed studies (Poole, 2005b; Poole, 2009), which had low to intermediate proficiency level participants, found that females' overall strategy use was significantly higher than that of males. In addition, their use of subcategories of reading strategies (support strategies, global strategies, and problem-solving strategies) was significantly higher than males'. They used a great number of individual strategies significantly more frequently than males. However, an earlier study (Poole, 2005 a), which examined advanced ESL learners, did not found significant gender differences. These findings suggest that, as readers' language proficiency improves, the gender disparities in strategy use decreases. A later section (4.3) will further analyse these contradictory findings about gender.

That females are innately more talented in language learning than males has been a widely held belief even among foreign language educators and researchers (Oxford, Nyikos, & Ehrman, 1988). However, there is little empirical evidence explaining this phenomenon. Above findings reveal how female and male EFL/ESL readers differ in solving problem, using external support, and regulating their cognitive processes. Overall, females access reading tasks more strategically as compared with males. Gender disparities in using reading strategies partly explain gender disparities in language learning achievement.

4.2 Motivation Factors Positively Correlate with Reading Strategy Use.

Reviewed studies indicate that motivation factors are positively related to EFL/ESL reading strategy use. Students who were highly motivated to read were more explorative and persistent in using reading strategies (Meniado, 2016). Readers with higher achievement goals used reading strategies significantly more frequently than their peers with lower achievement goals (He, 2008). Readers with higher self-efficacy tended to use reading strategies more frequently (Li & Wang, 2010; Shang, 2010).

The positive relationship between the reading strategy use and reading motivation suggest two possible directions of impact. On the one hand, students' use of reading strategies enhances their motivation and interest in reading. On the other hand, if students are highly motivated to read, they are explorative and persistent in using a variety of reading strategies. In either case, motivation in reading plays an important role in reading strategy use and reading comprehension.

According to goal theory, motivation for learning is conceptualized as goal-directed behaviors of learners to complete learning tasks (Duda & Nicholls, 1992). He (2008) examined two subcategories of achievement goals: mastery goals and performance goals. To learners with strong mastery goals, the primary purpose of learning is to master skills and gain knowledge. In contrast, learners with strong performance goals regard learning just as means to outperform their peers. The two types of learners differ fundamentally in their purposes of learning and definition of success. Mastery goals positively relate to reading comprehension achievement and overall reading strategy use (He, 2008). This finding highlights the significant role of strong mastery goals in successful language learning.

While He (2008) argued that a performance goal is a negative predictor for strategy use, more studies are needed to confirm this finding.

Reading self-efficacy refers to how confident learners are about their reading abilities. Two reviewed articles (Li & Wang, 2010; Shang, 2010) as well as three other studies (Magogwe & Oliver, 2007; Wong, 2005; Zhang, 2004) yielded consistent findings: EFL/ESL learners with higher perception of self-efficacy tended to use reading strategies more frequently than other learners. Self-efficacy is the perception of one's actual language proficiency. The positive relationship between self-efficacy and strategy use actually confirms the positive correlation between reading proficiency and strategy use.

In sum, reviewed studies suggest a positive relationship between motivational factors and strategy use. These findings emphasize the necessity of integrating the motivational process in regular reading instruction.

4.3 Causes of Inconsistent Findings: Interaction Effect

Reviewed studies yielded similar findings regarding motivation factors; however three studies on gender disparities (Poole, 2005a; Poole, 2005b; Poole, 2009) adopted SORS (Mokhtari & Shoerey, 2002) to measure strategy use but reported conflicting findings. The following sections explain the causes of contradictory findings.

Studies (Poole, 2005b; Poole, 2009), which support gender disparities, focused on low to intermediate English learners. The research (Poole, 2005 a) suggesting the opposite examined advanced English learners. The inconsistent findings of Poole (2005a, 2005b, 2009) suggest the interaction effect between two factors: gender and proficiency. Gender disparities in strategy use are obvious at low to intermediate proficiency levels but are not obvious among advance level learners. As learners' proficiency improves, the gender disparities diminish correspondingly. In sum, interaction effects among factors exist. EFL/ESL learners' strategy use is influenced by multiple factors jointly.

Since inconsistent findings exist, the author only includes findings well supported by the overwhelming majority of studies in the conclusion section. The author also provides detailed information on instruments, participants and research designs of each study in the third section or in Table 2. In this way, readers can have a better understanding of contexts in which findings were generated.

5. CONCLUSION

It has been a widely accepted belief that females have an inborn language talent. The examination of gender disparities in reading strategy use sheds some light on this phenomenon. Female EFL/ESL learners are more active than male in using reading strategies: their overall strategy use and use of strategy subcategories (i.e., support, global, and problem-solving strategies) are significantly higher than males. Female EFL/ESL learners' high use of reading strategies, especially support and problem-solving strategies, partially explain why they outperform males in language learning. However, as language proficiency improves, the gender differences in strategy use diminish correspondently. Gender disparities in strategy use are not obvious among advanced-level EFL/ESL learners (Poole, 2005a; Poole, 2005b; Poole, 2009).

Motivation factors (motivation in reading, self-efficacy, and achievement goals) positively relate to reading strategy use. Students with high motivation in reading tend to be more persistent in using a variety of reading strategies. There is also a positive relationship between self-efficacy and strategy use. The more confident readers are of their reading ability, the more often they use reading strategies. While learners with strong mastery goals regard the primary purpose of language learning as mastering skills and gaining knowledge, learners with performance goals regard learning as means to outperforming peers. Readers with stronger mastery goals have better reading comprehension performance and higher use of reading strategies. Strong mastery goals motivate EFL/ESL learners fundamentally and are essential to successful language learning.

Lastly, through cross-study analysis, the author found out interaction effects among multiple factors. The influence of one factor increases or diminishes as other factors change. For instance, gender disparities in strategy use diminish as learners' proficiency improves. Instead of being impacted by isolated single factors, EFL/ESL learners' strategy use is shaped by multiple factors jointly. More empirical studies and literature review studies are needed to future explore interactions among factors relating to reading strategy use.

6. PEDAGOGICAL IMPLICATIONS

Motivation factors (interest in reading, self-efficacy, and achievement goals) positively relate with reading strategy use. There is also a positive relationship between some motivation factors and reading comprehension achievement. This finding highlights the necessity of combining the cognitive process with the motivational process in reading instruction. Motivation in reading can be influenced by both intrinsic and extrinsic factors (Komiyama, 2013). Readers' motivation will be enhanced when the topics are interesting, the learning environment is stress-free, and scaffolding is available (Pitcher, 2007). In addition, students with strong mastery goals (i.e., their primary purpose of learning is to gain knowledge and to master skills) outperform other students in terms of both reading comprehension achievement and strategy use. Strong mastery goals fundamentally motivate EFL/ESL learners to make progress. Teachers need to make students aware of the influence of goal-setting and help students set up strong but achievable mastery goals.

Reading strategies are teachable (Carrell, 1985). Prior research (Karimi, 2015; Macaro & Erler, 2008; Raymond, 1993) has confirmed that direct strategy training can improve students' reading comprehension and increase strategy use frequency. Students who receive strategy training also have more knowledge about strategy use and have a more positive attitude towards reading instruction. Teaching students how to use strategies should be an important consideration in the reading classroom (Han & Anderson, 2009). Since the 1990's, the obvious pedagogical effects of strategy training have given rise to strategies-based instruction. Strategies-based reading instruction is a learner-centered approach to teaching where reading strategy training is embedded into regular class materials and reading tasks. Students are explicitly taught declarative, procedural, and conditional knowledge of reading strategies (Cohen, Weaver, & Li, 1996). Janzen (2002) has proposed a model for strategies-based instruction that consists of five stages: general strategy discussion; teacher modelling; students practicing using strategies and demonstrating their strategy use by the think-aloud method; analysis of strategies used by both teachers and students; and explanation/discussion of individual strategies on a regular basis. Based on existing models, EFL/ESL teachers can make modifications according to the curriculum as well as students' background.

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