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Compensatory Reading among ESL Learners: A Reading Strategy Heuristic

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Abstract

This paper aims to gain an insight to the relationship of two different concepts about reading comprehension, namely, the linear model of comprehension and the interactive compensatory theory. Drawing on both the above concepts, a heuristic was constructed about three different reading strategies determined by the specific ways the literal, reorganisation and inferential skills of comprehension interact. The concepts of apt and smart reading strategies were introduced, which refer to two possible ways of compensatory reading. Applying the reading strategy heuristic to the secondary analysis of a large reading assessment data from Malaysian secondary school 3567 ESL learners, compensatory reading was found to be used by a significant group of those students who struggle with poor reading skills. Furthermore, one of the compensatory strategies, namely, smart reading, was found to be positively correlated with the learners' motivation to read and their belief about own reading competence, the proportion of positive answers among smart readers being 3.5% and 3.9% higher than among the mainstream readers, respectively. The findings suggest that the language talent of apt and smart readers (18.2% of the current sample to be discovered and cultivated in the L2 classroom, especially among low-achiever learners who would most benefit from the recognition of compensation as a legitimate skill of reading comprehension.

Keywords: compensatory reading, reading strategies, reading comprehension, ESL literacy

1. Introduction

1.1 Why a Reading Strategy Heuristic?

Understanding what we read is a result of a wide variety of cognitive processes in our minds. While at a lower level of comprehension, the meaning of words and sentences is decoded, higher-level processes facilitate a deeper understanding of the text as a whole. According to Barrett's taxonomy, reading comprehension takes place at five different levels, such as literal comprehension, reorganisation, inferential comprehension, evaluation and association, each levels requiring different reading skills (Barrett, 1972). While literal skills focus on decoding explicit information from the text through recognition or recall of its details, reorganisation skills include the use of these details for the analysis, synthesis and classification of the text-base information, enabling the reader to access additional information by mapping the text. At the higher levels of cognitive processes, conjectures and hypotheses are inferred by the reader beyond the explicit meaning, opinions are formed about the quality and accuracy of the text and last but not least, emotional reactions are developed about the text as a whole. This study is focused on the relationship between the basic and higher levels of reading comprehension, investigating the patterns of the use of two text-based and one higher-level skill by individual readers, namely literal comprehension, reorganisation and inferences.

A better understanding about the relationship of the different comprehension skills would provide valuable information about the whole process of reading comprehension. Such information, in case it is used appropriately by teachers, has a high potential to facilitate a more efficient teaching of reading. While literal skills are based exclusively on the knowledge of the given language, the higher-level skills are also influenced by external factors that vary learner by learner, such as the reader’s personality, social and cultural background, values, knowledge and experience. Accordingly, there may be learners in every reading class, who process texts in a different way from the mainstream, i.e. those who do not analyse the text nor make inferences before decoding explicit information. This study argues that a more effective practice of reading instruction could be

achieved if teachers recognise the different strategies of comprehension among their students, and reflect on these differences during the process of teaching and learning. Hence, we aimed to develop a heuristic to facilitate the recognition of the compensatory reading strategies in the reading instruction, and test it on a large sample of Malaysian ESL learners.

1.2 The Relationship between the Different Levels of Reading Comprehension

Literal comprehension is based on the grammatical and vocabulary knowledge of the reader. At the same time, reorganisation cannot take place without the use of analytic skills (Pressley et al., 1992), while successful inferential comprehension requires the use of cognitive skills by the reader (Plummer, 1988). Regarding the relationship between literal and inferential comprehension, it has long been proven that an interface exists between the two skills (Afflerbach, 2008; Pettit & Cockriel, 1974; Sanford, 2002). Indeed, a certain level of literal understanding provides an essential basis for the analytical and cognitive activities that facilitate a higher level of comprehension. Various studies provide evidence that inexperienced readers tend to be more bound to the text, getting stuck at the decoding of individual words, what applies to both native (Cunningham & Stanovich, 2001; Singer, Harkness, & Stewart, 1997) and non-native readers (Bernhardt, 2003; Carrell & Wise, 1998; Horiba, 1996). In accordance with the above findings, Fitzgerald (1995) found that the gap between native and non-native readers in the use of cognitive skills is closing at higher levels of L2 (non-native language) proficiency.

Based on broad evidence supported among others by the findings mentioned above, a linear model of comprehension is assumed by most of the theories that explain the process of reading (Nassaji, 2007). According to this view, decoding explicit information and obtaining a text-based understanding are prerequisites of any knowledge-based interpretation. Other studies, however, argue that the linear model often fails to explain how comprehension takes place in reality: on the one hand, besides the interface explained above, there is also a trading relationship between vocabulary and background knowledge (Adams, Bell, & Perfetti, 1995; Lukatela, Carello, Shankweiler, & Liberman, 1995; Stahl & Jacobson, 1986), while on the other hand, some readers tend to compensate for their inadequate literal understanding by an over-reliance on prior knowledge about the topic of the text (e.g., Bensoussan, 1998; Carrell & Wise, 1998).

1.3 Theories about Compensatory Reading

The concept of compensation has its origins in Walczyk's (1993) compensatory-encoding theory, which assumes that a low level of literal skills does not always pose a serious obstacle to successful comprehension, as some readers compensate for their weak literal understanding by using various mechanisms to support the reading process. However, the compensatory mechanisms elaborated by this theory, such as slow reading, re-reading specific sections and pausing, provide little explanation to the role of prior knowledge in compensation. A more appropriate interpretation is offered by Stanovich's (2000) interactive compensation theory which assumes that compensatory processing may happen when deficit in a particular knowledge source results in a heavier reliance on other sources. If one of the comprehension skills is insufficient, other reading processes will work harder to compensate for its weakness. Thus, less skilled readers may compensate for their weak word recognition skills by using contextual information (Stanovich, 2000).

From this approach, compensation is regarded to be an additional reading skill that can be developed just as the other skills of comprehension (Walczyk & Griffith-Ross, 2007). Although compensatory strategies has little relevance for the majority of readers (Jackson & Doellinger, 2002), the recognition, acknowledgement and instruction of it could still have positive impact on the performance of those readers who benefit from compensatory reading.

1.4 The Reading Strategy Heuristic

Our study uses the interactive compensation theory (Stanovich, 2000) to gain an insight into the individual differences between the ways readers use their comprehension skills. We suggest that the extent and forms of compensation depend on the individual readers, dividing them into different patterns of comprehension. Based on the interactive compensation theory and the taxonomy of reading comprehension (Barrett, 1972), we recognise three possible subgroups of readers in terms of their complying with or diverging from the mainstream reading strategy. On the one hand, mainstream readers reorganise information and make inferences primarily on the basis of their text-based understanding. This strategy is in accordance the linear model of comprehension, showing an interface between the lower and higher skills of comprehension. On the other hand, apt readers tend to compensate for the gaps in their literal understanding by a more advanced use of their analytical skills, being more efficient in reorganisation. At the same time, smart readers compensate by using their cognitive skills and background knowledge to make more efficient inferences about the text than the extent of their literal

comprehension (Figure 1).

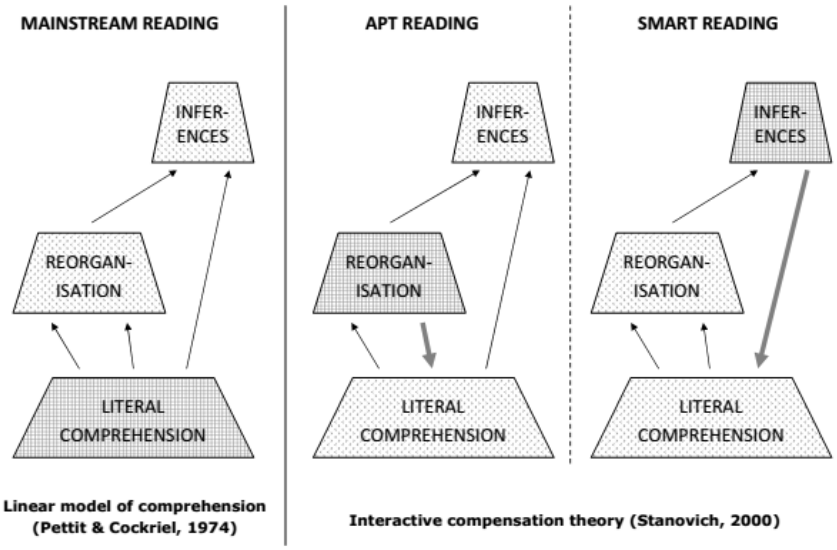

Figure 1. The reading strategy heuristic

The heuristic presented in Figure 1 contains an interesting question yet to be answered. Based on the discourse of compensatory reading in the literature, it cannot be said clearly, how strongly the different strategies of compensation are correlated – with other words, whether apt and smart readers are the same persons or they constitute two different segments of the learners.

The labels apt and smart may suggest that it is the more successful learners who benefit from compensatory reading strategies. On the contrary, weak and struggling readers are found to use it primarily, as a strategy to fill the gap left by their poor literal comprehension (Spear-Swerling & Sternberg, 1996). Going further on with this course of thoughts, apt readers may be considered to be those learners having limited reading skills and language proficiency, who, as a strategy of effective reading, attempt to use their sense of logic to fill the gaps in their literal comprehension. Similarly, smart reading can be regarded as using the readers' background knowledge and general sense of languages, and perhaps culture, to improve their literal comprehension. In spite of compensatory reading being the refuge of struggling readers, we still stick to the labels apt and smartas we argue that compensation is a legitimate reading skill which needs as much nurturing and attention as any other.

From a pedagogical perspective, identifying the reading strategies of individual learners would empower teachers with an effective tool to address a range of issues related to their instruction. Readers using different strategies may require different teaching approaches, while ignoring non-mainstream reading strategies would impair and discourage those learners who use them. In case it is proven that compensatory strategies are primarily observed among struggling readers in a given educational context, the identification of reading strategies may empower the teachers with a means to reduce educational inequalities.

2. Method

2.1 Aim

The aim of this study was to verify the applicability of the reading strategy heuristic introduced above on a large sample of L2 readers, and to fill the gaps in our knowledge about the role of compensatory reading in the L2 classroom. We regard heuristic as a general strategy that guides the discovery process by enabling the researcher to transform information to solve a problem (Gorman, 1992). To achieve the above aim, we investigated the prevalence and distribution of compensatory strategies in a large sample of Malaysian secondary school ESL learners.

2.2 Source of Data

The data used in this study originates in the secondary analysis of a huge database of student results obtained

using Reading Evaluation and Decoding System (READS), a standardised tool designed for the assessment of reading comprehension, based on the Malaysian ESL curriculum (Abdul, Rashid, & Lin, 2010). The READS assessment consists of 60 multiple choice items: 20 questions about basic understanding (literal skills), 24 questions about information to be found in the text (reorganisation skills) and 16 questions that require higher levels of understanding (inferential skills). Besides the reading comprehension results, the READS database also contains a range of simple explanatory variables about the learners' socio-economic background, academic performance and attitudes.

2.3 Sample

Our sample consists of 3567 Form 4 (year 10) students from 47 different secondary schools. The schools that participated in the assessment were selected randomly from the 124 public secondary schools located in the Penang State of Malaysia, using the list of public schools published on the official website of the Educational Authority of Penang State (Jabatan Pelajaran Negeri Pulau Pinang). Within the selected schools, however, all students of the respective age group, present at the time of the testing, were involved.

2.4 Variables

To gain an insight to the role compensatory reading plays in the L2 classroom, we investigated the extent of using compensation at the different levels of reading proficiency. Being a standardised tool of ESL reading evaluation, tested and verified in the Malaysian context, we accepted the READS assessment as a measure of the learners' reading performance (Abdul Rashid, Lin, & Shaik Abdul Malik, 2010). Thus, the total scores attained by the learners in the READS testing were considered to be a clear indicator of their overall proficiency in ESL reading comprehension. Additionally, we analysed the relationship of compensatory strategies with other factors that may influence the learners' reading comprehension. Our construct about these factors was inspired by the tripartite model proposed by Matsumoto, Hiromori and Nakayama (2013) who argue that there are strong multiple correlations between the learners' reading strategy, motivations and beliefs. As the additional questions attached to the READS assessment offered two Likert items relevant to the tripartite model, these items were selected to provide basic information about the self-reported willingness of the learners to read in English, along with the self-assessment of their own reading comprehension skills (Table 1).

Table 1. The variables and data sources used for the analysis

Variable	Data source	Use of data
ESL reading proficiency	Total READS score: 60 multiple choice questions	Reading proficiency analysis
Result of literal comprehension	20 multiple choice questions	Strategy analysis
Result of reorganisation	24 multiple choice questions	Strategy analysis
Result of inferential comprehension	16 multiple choice questions	Strategy analysis
Willingness to read in English	4-point Likert item: "Do you like reading in English?"	Motivation analysis
Self-assessment of own reading comprehension skills	4-point Likert item: "When you read something in English, to what extent do you understand it?"	Belief analysis

2.5 Data Analysis

As a first step of the data analysis, the general trend of reading strategies was examined, based on the average performance of the entire sample in each of the three comprehension skills measured by the READS assessment. This step was important to check the validity of using READS specifically for the investigation of the relationship between literal, reorganisation and inferential comprehension, the predominance of the linear model being expected from the majority of readers.

Subsequently, we identified the mainstream, the apt and the smart readers in the sample. Mainstream readers were defined, according to the linear model of comprehension, to have attained their highest performance in literal comprehension. Accordingly, compensatory reading was associated with those students whose literal skills were assessed equal to or lower than their reorganisation and/or inferences (Table 2).

Table 2. The method of identifying the mainstream, apt and smart readers

Mainstream readers	Compensatory readers	
	Apt readers	Smart readers
Lit - Reo > 0 AND Lit - Inf > 0	Lit - Reo ≤ 0	Lit - Inf ≤ 0

Lit = the percentage of correct answers to all questions which assessed the readers' literal comprehension.

Reo = the percentage of correct answers to all questions which assessed the readers' reorganisation comprehension.

Inf = the percentage of correct answers to all questions which assessed the readers' inferential comprehension.

Having identified the different groups of readers by strategy use, we observed the prevalence of compensatory reading strategies in the sample, and analysed the correlation between the occurrence of 'aptitude' and 'smartness' among the individual learners. Subsequently, we measured the distribution of apt and smart readers at the different levels of reading proficiency, to determine which groups of students would most benefit from the recognition of compensation in the ESL classroom as a legitimate reading strategy. Finally, we examined the correlations between the learners' strategy use, motivation to read and belief about own reading competence.

3. Results

3.1 The Prevalence of the Different Reading Strategies

Descriptive statistical analysis of the READS results proved that the reading strategies of a vast majority of the ESL learners in our sample can be explained by the linear model of reading comprehension. The mean percentages of the correct answers gradually decrease from the literal questions to those assessing the learners' inferential skills. Further analysis showed that the distributions of the individual results are quite similar, with the higher level skills being distributed somewhat more balanced and symmetrically (Table 3).

Table 3. General results in the different skills of reading comprehension (N=3567)

Assessed skill of reading comprehension	Mean score (%)	Standard deviation of mean score percentages
Literal	72.4	21.5
Reorganisation	60.2	20.6
Inferential	54.7	23.4

Although the relationship between the learners' different reading skills exposes the predominant role of the linear model, a substantial segment of the assessed students were proven to use some kind of compensatory strategy. Applying the definitions of mainstream, apt and smart readers as suggested by the proposed reading strategy heuristic, almost one quarter of the entire sample falls into the category of compensatory readers (Figure 2). Furthermore, a strong and significant positive relationship was unveiled between 'aptitude' and 'smartness', 45% of the apt readers benefiting from smart reading strategy as well, while the similar proportion among the smart readers is 38% - the respective percentages for the whole sample standing at 13 and 16 (Sig=0.000). In other words, apt readers' tend to benefit from the use of smart reading strategies more than their mainstream peers, and the same trend is observed in the case of smart readers' using the apt strategy (Figure 3).

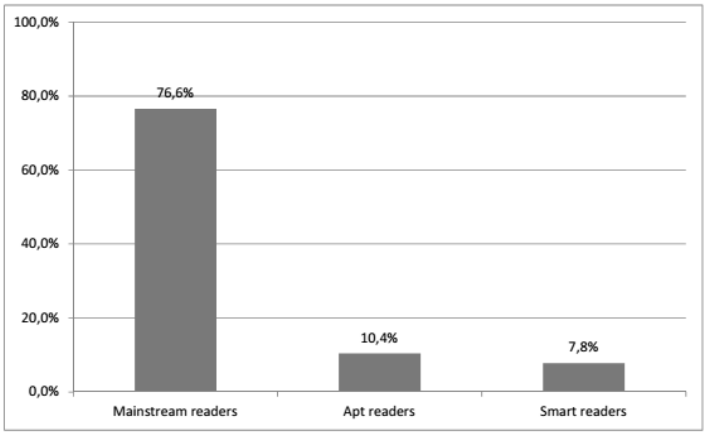

Figure 2. Prevalence of the different reading strategies within the whole sample (n=3567)

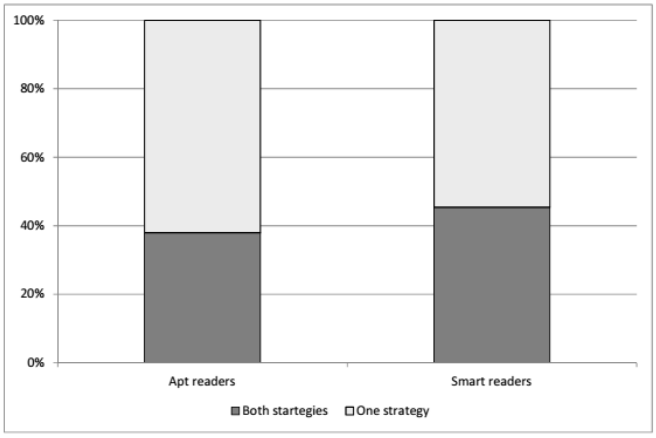

Figure 3. Proportion of learners of using both types of compensatory reading strategies among the apt and smart readers (n=833)

3.2 The Correlation between Reading Strategies and Other Factors

By the analysis of the correlations between the learners' reading strategies and the other factors that may influence their reading comprehension, we found that those learners who use compensatory reading strategies tend to have somewhat lower reading proficiency than the mainstream readers. In spite of this trend, the use of the smart reading strategy was found to be positively correlated with both the learners' motivation towards reading and their belief about own reading skills (Table 4). The importance of this finding is stressed by the fact that smart readers use inferences to fill the gaps in their literal understanding, which is a higher-level skill of comprehension than the reorganisation used by apt readers. While the higher levels of motivation and self-confidence observed among the smart readers does not automatically convert into more successful reading, it still reveals a potential that may be converted into higher proficiency in reading comprehension.

Table 4. The academic profile of the different groups of readers by reading strategy (N=3567)

Group of learners by reading strategy	Prevalence in the whole sample (%)	Mean score in READS (%)	Percentage of learners who like ESL reading[a]	Percentage of learners who believe they are good at reading in English[a]
Mainstream readers	76.6	64.0	61.4	63.3
Apt readers	16.0	56.5	61.4	61.4
Smart readers	13.4	60.3	64.9	67.2
Significance of correlation	*0.0*	*0.0*	*0.0*	*0.0*

a. The 4-point Likert items about the learners' motivation and beliefs were categorised into one positive and one negative answer each.

While the comparison of the mean READS scores shows only slight disadvantage in the academic background of those readers who benefit from compensatory strategies, a closer glance to the distribution of apt and smart readers by overall reading proficiency reveals that a significant group of low-performing learners use compensation to facilitate the process of comprehension (Figures 4-6).

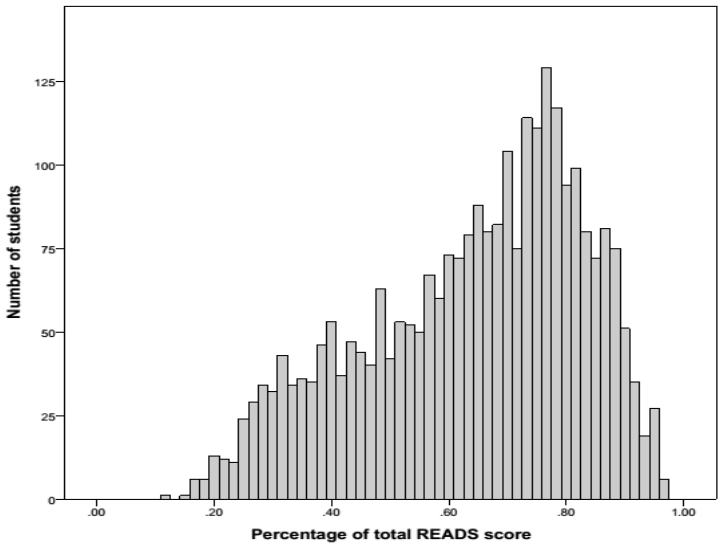

Figure 4. Distribution of READS Results among the Mainstream Readers (N=2734)

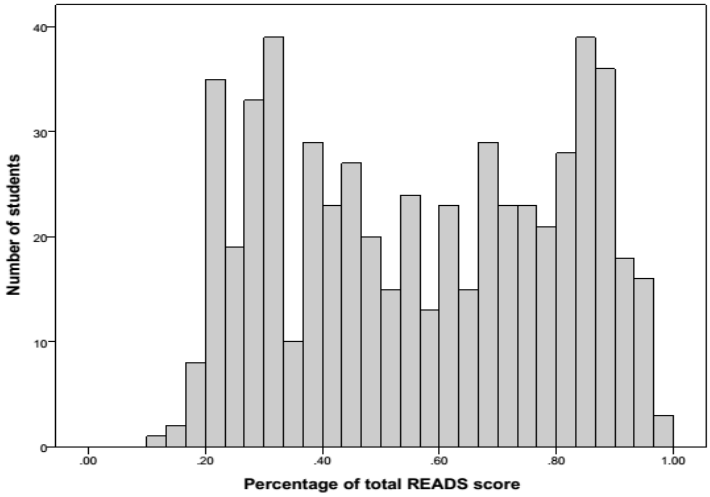

Figure 5. Distribution of READS results among the apt readers (N=572)

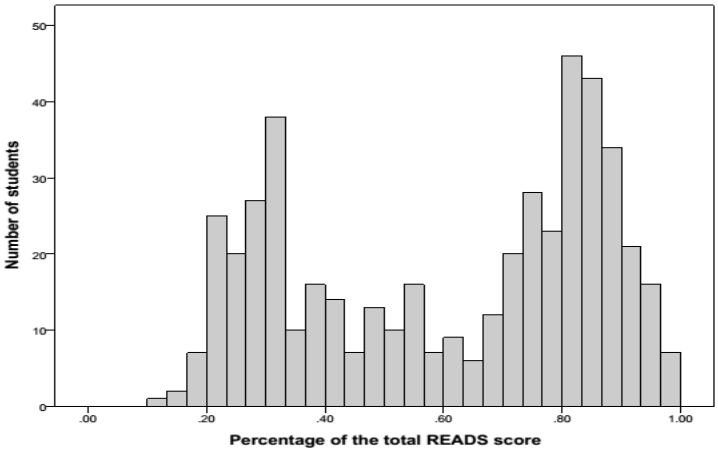

Figure 6. Distribution of READS results among the smart readers (N=478)

As it is clearly shown by Figures 5 and 6, compensatory strategies are most prevalent among the higher and lower proficiency segments of the learners, while medium performers tend to prefer the mainstream strategy. This pattern implies that compensatory readers may use a set of skills that are beyond the scope of the mainstream reading instruction.

4. Discussion

The findings presented in this study are in accordance with the reading strategy heuristic. The linear model of reading comprehension explained the READS results of a majority of the learners, what reflects the distribution suggested by Jackson and Doellinger (2002). At the same time, a substantial prevalence of compensatory reading could also be detected in the sample, the use of its two different strategies being strongly correlated. Such a pattern implies that compensatory reading tends to be applied as a coherent strategy in the minds of the apt and smart readers.

The heavy presence of poor readers among the learners who use the apt and the smart reading strategies supports the previous theories and findings about compensatory readers being represented among the lower achievers in the L2 classroom (Spear-Swerling & Sternberg, 1996; Stanovich, 2000). Considering the trend that the apt and the smart readers are over-represented among both the least and the most proficient learners, we suggest that compensatory reading requires a set of language skills which are not taught and, subsequently, not rewarded in the common practice of L2 instruction. Such an interpretation has a strong resonance with the theory presented by Walczyk and Griffith-Ross (2007) who claim compensation to be a separate reading skill.

The presented findings partially supported the tripartite model of strategy use, motivations and beliefs in L2 reading as they revealed positive correlations between one of the compensatory strategies and the two other factors included in that model (Matsumoto et al., 2013). Furthermore, taking into consideration that the correlation was observed in respect to that strategy which involves the use of a higher-level reading skill, we argue that there is an association between the notions of compensatory reading and successful reading in the minds of those who benefit from compensatory strategies. Hence, rather than being another tool that would provide additional support to bright students only, compensatory reading strategies tend to serve as lifebuoy for a significant minority of students who struggle with weak reading skills and L2 proficiency.

5. Conclusion

The reading strategy heuristic proposed by the authors provided a suitable framework to discuss the READS results in a meaningful way. Based on the interpretation of our data, we argue that the use of apt and smart reading strategies is an indicator of a separate language skill that is barely taught and rewarded in the mainstream L2 classroom. As this talent was found to prevail in a substantial segment of those learners struggling with poor reading proficiency, the concept of compensatory reading, along with the use of a standardised reading assessment, would empower language teachers with a relatively easy method to find a dormant reading skill in some of their weakest students.

Bearing in mind that the acceptance of certain skills as talent is always relative and dependent on the cultural setting (Schneidermann & Desmarais, 1988), we argue that our findings have two implications for the classroom practice. On the one hand, compensatory reading should be recognised, promoted and rewarded by L2 teachers as a legitimate strategy of reading comprehension. On the other hand, the compensatory skill possessed by apt and smart readers should be discovered and cultivated, especially among low-proficiency readers. As this segment of readers are found to be already more motivated and self-confident than their peers among low-performers, the recognition of their dormant skill would be likely to dramatically enhance their reading comprehension. Through the recognition of compensation as a separate reading skill that explains the non-mainstream reading behaviour of apt and smart readers, teachers would obtain a means of better understanding, assisting and motivating some of the lowest achievers in their classrooms. The spread of such an approach in the mainstream L2 instruction would facilitate that public education systems live up to their mission, and reduce the waste of talents that has been an ever-present side effect of mass education since its beginnings.

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