



# Analysis of Reading Skills in Children with English as a Second Language Using EDAS Method

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**Abstract.** English as a second language in the EDAS Method: Learning a new language can be difficult at any age, but this is especially true when learning English. This guide is intended to help you, or someone you know, who wants to learn English find information. English and other languages have some similar grammar rules, so trying to learn the grammar rules of English while learning another language can be confusing. One of the main reasons is that foreign languages are not given sufficient funding at the initial stage. Many schools cannot hire additional teachers to teach foreign languages. Estimation Based on the Distance from the Mean Solution (EDAS) has introduced a new and efficient Multiple Criteria Decision Making (MCDM) method. In this method, alternatives are selected from the average solution based on their determined distance. The alternatives include: Krashen's natural order rank, instruction SOC rank, naturalistic SOC rank, and mixed SOC rank. The evaluation preferences for this method are: progressing, plurals, singular copula, progressive auxiliary, article, and past irregular. The results show that the past irregular category ranks first, while plurals rank the lowest. The dataset value for English as a second language using the EDAS method indicates that plurals have the lowest ranking.

**Key Words:** English as a second language, EDAS Method

## 1. Introduction

The English language belongs to the West Germanic language group and is an Indo-European language. Modern English is widely regarded as a stable language and is commonly used in computer coding, international business, and higher education departments. It is included as a subject in Cambridge IGCSE or equivalent exams to prepare students. In a colorful format, it provides clear, practical support to students, offering a variety of interesting themes and topics. It focuses on developing skills in listening, speaking, reading, and writing, and pays attention to each of the 18 reflective units, providing opportunities for discussion as well as improving research and study skills. An audio CD for listening activities is included. Knowing English in your home country can increase your chances of getting a good job in a multinational company or finding a job abroad. English is an international language used for communication, media, and the internet, making it important for socialization, entertainment, and work. This paper presents data that demonstrate the need to learn English as a second language at an early age. Learning English is essential and important as everyone faces many challenges in life where they need to communicate with others who speak different languages. Moreover, English is widely considered as a common language around the world. However, it should primarily be used as a second language in most countries. Additionally, the English language helps many people in various aspects of their lives, such as improving academic performance and increasing job opportunities. It is also beneficial for interacting with smart people in tourist areas.

## 2. English as a second language

These questions are 1) English as a Second Language (ESL): The range of learning strategies students use and their frequency, and 2) learning in English language skills: Effects of instruction on strategies. At a high level, this study, conducted with school ESL students, was conducted in two stages according to two research questions. In Phase I, ESL classrooms and others with a range of tasks commonly found in systems and ESL students were interviewed to find relevant strategies. Their teachers were also interviewed. The results indicate that students use a variety of learning strategies, but generally, they are more familiar with tasks instead of discrete points. It is clear from the results that improving children's reading skills as they speak English as a second language is similar to developing the reading skills of native English speakers. Successful relationships with the English language depend on factors such as individual differences and instructional methods, rather than being fluent and efficient. Additionally, research by Mac Intyre and Gardner suggests that language learning anxiety is highly specific and should not be measured by generalized anxiety measures. This study argues that anxiety can be affected by the environment in which the target language is used as an everyday language for communication. However, despite being supported by other American-English and Spanish-speaking students who are fluent in English, he did not perform well in mainstream ESL classes. Unfortunately, Pablo's situation is not unusual among English language learners (ELLs). In 1974, Schechter conducted a study that tapped into a subtle form of communication through language. He analyzed the frequency of clauses in written English compositions written by adults learning English as a second language. The learners in the study came from two different L1 backgrounds: Persian and Arabic. The study

examined how the clauses related to the head noun of the clause in both languages. The primary question of this study is the relationship between English grammar and performance in English as a second language. The results show a clear and strong correlation between age and performance in English acquisition, with those who began learning English at an earlier age in the United States scoring higher. Considering the conflicting claims, the following study aims to resolve this conflict by examining the contributions of instruction to spontaneous production among second language learners. The study addresses the question of how linguistic input affects the production of English learners as a second language. This question is addressed by examining English grammatical morphological production among Spanish-speaking adults under three different categories. According to the 2001 Canadian Census data, the number of immigrants in Canada is increasing, resulting in the highest population rate of people born outside the country in 70 years. ESL students are defined as non-native language students whose parents are immigrants. As a result, more students than ever before are entering the Canadian school system with low English language proficiency. There are some longitudinal studies on ESL students' reading development that provide benchmarks for development and specialize in designing research models for ESL students to develop a clear identity. This study examines the processing of reflexive object pronouns in English by learners who are proficient Japanese speakers as a second language (L2). The results of two experiments are reported. Experiment 1 tested Principal A under processing pressure to assess learners' susceptibility to binding. It used a time grammaticality judgment task. Taken together, our results indicate that reflexivity in related untimed tasks has demonstrated learners' own knowledge of binding. Learners imitate English from their mother tongue but process it differently, making discourse-critical but binding-theoretical distinctions. A logically inappropriate antecedent, the first reflexive, was considered appropriate by learners when they encountered it [13]. This study included 37 articles for growth over time, and species differences were analyzed. Syntax complexity, precision, and category in areas of lexical complexity and fluency were examined to identify differences in short-term linguistic development. It is a conceptual replication of previous research. The objective of the study is to determine whether the differences are developmental or related to functional differences between types of ESL students and their native languages. Additionally, the study aims to examine whether teachers express preferences [14]. Carrel's paper has sparked a discussion on coherence in writing despite many accounts of the relationship. For this reason, the present article investigates the comprehensive linguistics of coherence in writing. It compares the features of writing by native English speakers with those of advanced ESL learners. The study utilizes Holliday and Hassan's (1976) theory to examine coherence in essays and measures coherence and synchronization using holistic assessments [14]. The purpose of this study is to explore the relationship between preservative English and second language teachers and teaching [15]. The study focuses on teachers' beliefs and their perceptions of their instructional practices during training. The following sources were searched: ERIC documents through 1980, Dissertation Abstracts up to 1989, and indexes of Reading Research Quarterly, Journal of Reading Behavior, and DESOL Quarterly. Additionally, investigations in reading in the 1980s were examined [17]. An intensive program of English as a second language was conducted with Arabic and Spanish-speaking students. The study examined student variables, including time in language study, cognitive/affective characteristics, segmental independence, ambiguity endurance, motivational intensity, and English class anxiety. The study measured English proficiency using TOEFL and the Oral Test of Communication Skills. The results showed that the cognitive/affective variables did not predict variability criteria beyond those predicted by the English proficiency of the subjects [19]. Community colleges play a significant role in ESL instruction, and statistics indicate a substantial demand for such instruction. In 1991, about 40 percent of community colleges offered ESL instruction, but this percentage rose to 55 percent in 1999 (Schuyler, 1999). Fitzgerald (1995) pointed out that the number of ESL courses lags behind the demand. In a more recent study, Ellis (1999) found that 89 percent of community college respondents to a nationwide survey indicated that most students whose first language is not English have to work on their language skills before taking credit courses alongside English speakers. [21]

### **3. EDAS Method**

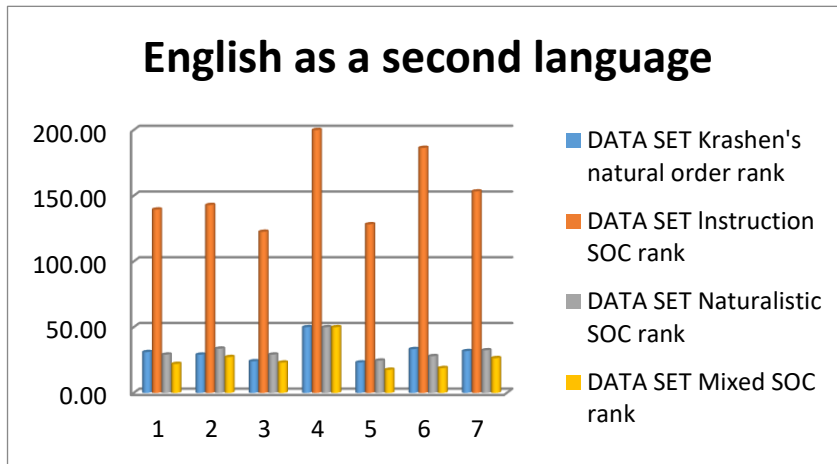
In the EDAS technique, the opinions of choice markers inside the choice matrix may be linguistic variables, together with vagueness and impreciseness. Selecting suitable subcontractors is very important for outsourcing the success of construction projects. Key contractors and promoting reputation are crucial. Evaluation of subcontractors can be done by decision makers depending on certain experts or specific criteria. If this method is executed in one-of-a-kind time durations, it turns into a dynamic multiple criteria panel choice making (MCGDM) problem. [2] In this study, we propose a dynamic MCGDM approach for subcontractor evaluation based on the new ambiguity introduced by the EDAS method. In the existing study, EDAS and Fuzzy AHP were used to prioritize renewable energy sources, and investment decisions were made based on the most reliable results to provide a mechanism for risk analysis. Therefore, the main contribution of the study is to recommend a model for implementing investment decisions by using both priority and risk analysis together, which is very reliable in the field of renewable energy. In this study, MCDM techniques, namely Fuzzy AHP and EDAS, were used to evaluate renewable energy sources according to their weights. Although the alternatives were comparable, the risks associated with the options were evaluated with Fuzzy FMEA. [3] Additionally, a systematic comparative analysis was conducted to express the advantages of our system compared to other existing methods. The results indicate that evaluating the pure manufacturing performance of gold mines and incorporating clean production as reference values for management and implementation are important. MCDM models have another significant application, which is widely used to sort alternatives according to weight based on multiple criteria. However, existing methods generally require complex calculations and are inflexible for decision makers. In light of this problem, this study examines the characteristics of the normal distribution and proposes a way to efficiently address MCDM issues using the EDAS approach. [4] As mentioned earlier, the EDAS method is one of the MCDM strategies. This approach is as efficient and comparatively new as proposed by Cashews Grebe et al. The significance

of the normal distribution and the characteristics of this distribution form the basis of the EDAS technique, and an extension of EDAS to effectively address random MCDM issues is proposed in this paper. Rotational symmetry, a characteristic of the modulation galaxy, has not yet been studied in relation to EDAS. Therefore, we propose a quick approach to finding an EDAS solution. [6] The EDAS method uses alternatives that are central to EHFLTS to obtain the average solution collections. In the modern technology of electricity development, social, economic, and environmental factors, including the involvement of many criteria, make the production of energy from agricultural waste very complex. In this study, a hierarchical procedure (FAHP) was used for hybrid multi-criteria selection (MCDM) to rank the samples by weight. [7] Various Multi-Criteria Decision Making (MCDM) strategies are proposed for the selection problems of corporations that utilize locally available biomass. MACBETH and EDAS methods are also MCDM techniques, and these methods have been applied to specific areas in the literature. The original contribution of this paper is to combine the MACBETH and EDAS techniques. This is the first study in the literature that uses MACBETH and EDAS methods together. [8] The EDAS technique is also a new method for ranking alternatives and determining the best one. It is chosen because it is useful for decision problems that involve conflicting criteria. On the other hand, the EDAS technique does not involve complex calculations and is easy to apply. "In this paper, both of these techniques are chosen for steam boilers, as they are used collectively in this unique field. The EDAS method is an MCDM approach, and, contrary to expectations, it is very useful in decision-making problems with criteria. According to the EDAS approach, it is better to base decisions on the gap from the alternative mean answer (AV) [9]. When dealing with the nature of the options, it is important to calculate measures that are effective in addition to the improved EDAS tool. This tool is used to diagnose critical risk factors in detail, with many indicators and capabilities of the organization. Furthermore, it provides a way to effectively integrate ideas, subjective weights, and objective weights based on similarity, creating an integrated weighing system. A case study on the safety risk analysis of metro construction in China examines the feasibility of the structure. Particle mass optimization (PSO) efficiently integrates the analysis of distribution mechanisms (EDAs) without compromising quality features. The goal is to find the probability model, also referred to as gene genetic mechanisms [11]. Therefore, EDAs are considered a robust and collaborative search technique for worldwide searches. In recent years, attempts have been made to effectively integrate the strengths of PSOs and EDAs. Each particle can benefit from a global statistic collected from all local optimum levels of a cluster, initiated from the trial. Consequently, they have better performance than existing PSO programs on well-known benchmark problems. However, limited research has been conducted with two finite elements. On the other hand, the PSO mechanism primarily focuses on exploring the search space to find local optimal solutions. To further promote exploitation of solutions, it is ideal to use natural selection theory at the level of local optimal solutions, such as ETAs [12]. These are the primary motivations for this study. This paper employs PSO and introduces a new framework for evaluating particle mass distribution mechanisms (EPSDAs) aimed at combining the benefits of EDAs. EPSDAs demonstrate the application of the recommended framework. An extended small particle mass optimization (Epsom) was developed accordingly [14]. For the past two decades, genetic and evolutionary approaches (GEAs) have been effectively used to solve various engineering and scientific problems. In recent times, the new paradigm of GEAs, known as estimation of distribution algorithms (EDAs), has gained significant attention. EDAs are a type of genetic algorithms that comprise the probability model. Safety risk assessment is crucial in metro construction to prevent catastrophic accidents that can cause significant financial losses and loss of life. In this paper, we introduce a comprehensive risk assessment framework that includes enhanced estimates based on distance from the cryptal networks (CNs) and the average solution (EDAS) tool. [15]

**TABLE 1.** English as a second languagein Data Set

	<b>Krashen's natural order rank</b>	<b>Instruction SOC rank</b>	<b>Naturalistic SOC rank</b>	<b>Mixed SOC rank</b>
<b>Progressiveing</b>	31.08	139.53	29.15	22.05
<b>Plurals</b>	29.12	142.97	33.69	27.30
<b>Singular copula</b>	24.08	122.58	29.18	23.10
<b>Progressive auxiliary</b>	50.00	200.00	50.00	50.00
<b>Article</b>	23.17	128.28	24.60	17.59
<b>Past irregular</b>	33.33	186.41	27.96	18.89
	31.79667	153.29500	32.43000	26.48833

This table 1 shows that the value of dataset for English as a second languagein EDAS method Alternative: Krashen's natural order rank,instruction SOC rank, Naturalistic SOC rank, Mixed SOC rank. Evaluation Preference: Progressiveing,Plurals, Singular copula, Progressive auxiliary, Article, and Past irregular.



**FIGURE 1.** English as a second languagein Data Set

This figure 1 shows that the value of dataset for English as a second languagein EDAS method Alternative: Krashen's natural order rank,instruction SOC rank, Naturalistic SOC rank, Mixed SOC rank. Evaluation Preference: Progressiveing,Plurals, Singular copula, Progressive auxiliary, Article, and Past irregular.

**TABLE 2.** English as a second languagein Positive Distance from Average (PDA)

Positive Distance from Average (PDA)			
0.00	0.00	0.10	0.17
0.00	0.00	0.00	0.00
0.00	0.00	0.10	0.13
0.57	0.30	0.00	0.00
0.00	0.00	0.24	0.34
0.05	0.22	0.14	0.29

This table 2 shows that the values of Positive Distance from Average (PDA) for English as a second languageusing EDAS. Find the pair wise comparison value for Progressiveing,Plurals, Singular copula, Progressive auxiliary, Article, and Past irregular.

**TABLE 3.** English as a second languagein Negative Distance from Average (NDA)

Negative Distance from Average (NDA)			
0.02254	0.08979	0.00000	0.00000
0.08418	0.06735	0.03885	0.03064
0.24269	0.20037	0.00000	0.00000
0.00000	0.00000	0.54178	0.88762
0.27131	0.16318	0.00000	0.00000
0.00000	0.00000	0.00000	0.00000

This table 3 shows that the values of Product recommendation in Negative Distance from Average (NDA) For English as a second languageusing EDAS. Find the pair wise comparison value for Progressiveing,Plurals, Singular copula, Progressive auxiliary, Article, and Past irregular.

**TABLE 4.** English as a second languagein Weightage

Weight			
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25

Table 4 English as a second languageon weight in all weightages same weight

**TABLE 5.** English as a second languagein Weighted PDA and SPi

Weighted PDA				SPi
0	0	0.02529	0.04189	0.07
0	0	0	0	0
0	0	0.02505	0.031979	0.06
0.14312	0.07617	0	0	0.22
0	0	0.06036	0.083984	0.14
0.01206	0.05401	0.03446	0.071714	0.17

The table 5 is calculate the weight of Positive distance from mean (PDA), positive distance from mean multiple with weight value. Next we calculate the sum of positive weighted PDA.

**TABLE 6.** English as a second languagein Weighted NDA and SNI

Weighted NDA				SNI
0.005635	0.02	0	0	0.03
0.021045	0.02	0.01	0.01	0.06
0.060672	0.05	0	0	0.11
0	0	0.14	0.22	0.36
0.067827	0.04	0	0	0.11
0	0	0	0	0

The table 6 is calculating the weight of Negative Distance from mean (PDA), negative distance from mean multiple with weight value. Next we calculate the sum of negative weighted NDA.

**TABLE 7.** English as a second languagein NSPi, NSPi,ASi value

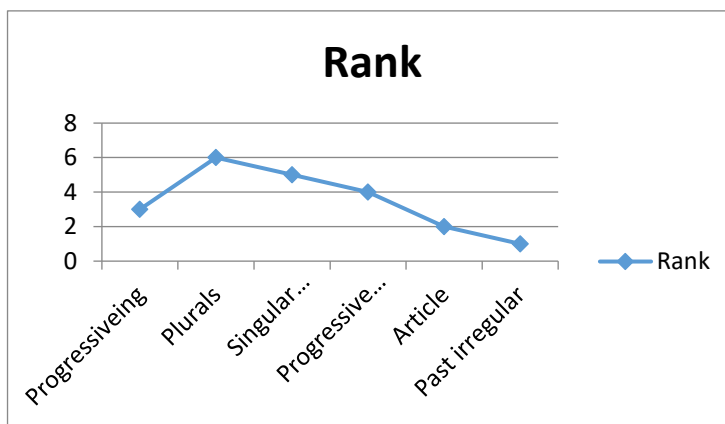
	NSPi	NSPi	ASi
<b>Progressiveing</b>	0.3063	0.9214	0.6139
<b>Plurals</b>	0	0.8454	0.4227
<b>Singular copula</b>	0.2601	0.69	0.4751
<b>Progressive auxiliary</b>	1	0	0.5
<b>Article</b>	0.6582	0.696	0.6771
<b>Past irregular</b>	0.7854	1	0.8927

This table 7 English as a second languagein NSPi, NSPi ,ASi value used to calculated the average for positive and negative values.

**TABLE 8.** English as a second languagein Rank

	Rank
Progressiveing	3
Plurals	6
Singular copula	5
Progressive auxiliary	4
Article	2
Past irregular	1

This table 8 shows that from the result it is seen that Past irregular and is got the first rank whereas is the Plurals got is having the lowest rank.



**FIGURE 2.** English as a second languagein Rank

Figure 2 is analysis the rank of English as a second language. From the result it is seen that Past irregular and is got the first rank whereas is the Plurals got is having the lowest rank. The Singular copula is on the 5<sup>th</sup> rank, Progressive is on the 3<sup>rd</sup> rank, Progressive auxiliary is on the 4<sup>th</sup>rank. Article on the 2<sup>rd</sup> rank.

#### 4. Conclusion

In this study, we propose a dynamic MCGDM approach to address the new ambiguity in EDAS for subcontractor evaluation. In the previous study, EDAS and Fuzzy AHP were primarily used to prioritize renewable energy sources, and investment decisions were made based on reliable outcomes of renewable energy sources, incorporating risk analysis. Therefore, the main contribution of this study is to recommend a model that combines both priority and risk analysis, making it highly reliable in the field of renewable energy for implementing investment decisions. In this study, MCDM techniques, namely Fuzzy AHP and EDAS, were used to evaluate renewable energy sources based on their significant weights. Additionally, the risks associated with these options were evaluated using Fuzzy FMEA. This study was conducted in two stages, addressing two research questions, with the participation of ESL students from school. In Phase I, ESL students and their teachers were interviewed to identify relevant strategies commonly used in ESL classrooms, particularly in tasks related to systems and learning strategies. The results indicate that students employ a variety of learning strategies; however, they generally favor tasks that are more familiar to them instead of discrete-point tasks. The study [2] highlights the importance of improving children's reading skills, whether they are native English speakers or English learners. Successful development of reading skills in English, particularly for second language learners, depends on factors such as individual differences, achieving successful relationships with the English language, and effective instruction. Rather than focusing solely on fluency and efficiency, sound-coding in English plays a crucial role in early reading.

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