

تطبيق استراتيجيات التعلم المختلط القائم على  
كثافة النص لتنمية مهارات الفهم القرائي في  
اللغة الإنجليزية لدى تلاميذ المرحلة الابتدائية

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## "تطبيق استراتيجية التعلم المختلط القائم على كثافة النص لتنمية مهارات الفهم القرائى في اللغة الإنجليزية لدى تلاميذ المرحلة الابتدائية"

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### ملخص الدراسة

هدفت الدراسة الحالية لتحديد فاعلية تطبيق استراتيجية التعلم المختلط القائم على كثافة النص لتنمية مهارات الفهم القرائى في اللغة الإنجليزية لدى تلاميذ المرحلة الابتدائية . تكونت عينة الدراسة من ٥٠ طالباً بمدرسة الشبان المسلمين للغات بنها بمحافظة القليوبية. تم تقسيم العينة إلى مجموعة تجريبية وعددها ٢٥ طالباً ومجموعة ضابطة وعددها ٢٥ طالباً. استخدمت الدراسة الحالية الأدوات الآتية: شكلان متكافئان من إختبار مهارات الفهم القرائى في اللغة الإنجليزية (من إعداد الباحثة) ، وأداة لتصحيحه. تم تطبيق إختبار مهارات الفهم القرائى في اللغة الإنجليزية قبل وبعد تطبيق استراتيجية التعلم المختلط القائم على كثافة النص . أظهرت نتائج الدراسة فاعلية تطبيق استراتيجية التعلم المختلط القائم على كثافة النص لتنمية مهارات الفهم القرائى في اللغة الإنجليزية لدى تلاميذ المرحلة الابتدائية ، حيث أن نتائج المجموعة التجريبية كانت أفضل من نتائج المجموعة الضابطة فى مهارات الفهم القرائى في اللغة الإنجليزية.

**الكلمات المفتاحية:** استراتيجية التعلم المختلط القائم على كثافة النص، مهارات الفهم القرائى

### Introduction:

Reading comprehension is an ongoing cognitive process (Barton & Woolley, 2016). This cognitive process includes both concept-driven processes, which contribute to an individual's development of mental or visual models of text (Barton & Wooley, 2016). Further, these processes integrate students' constructed mental models of text with their prior knowledge using references that enable reading comprehension. Barton and Woolley (2016) also addressed factors that negatively affect students' reading comprehension asserting that reading comprehension difficulties can be attributed to multiple factors including biological, cognitive, and

behavioral issues. Some researchers indicated other factors might be involved that contribute to reading comprehension difficulties (Kendeou, McMaster, & Christ, 2016).

Researchers have found that reading comprehension is based on both a learner's linguistic knowledge and general world knowledge, this includes both native and non-native English speakers (Trapman, Gelderen, Steensel, Schooten, & Hulstijn, 2014; Treiman, 2018). General world knowledge is comprised of three components: (a) prior knowledge in a text's content area, (b) prior knowledge about a particular content area within a text, and (c) the extent of the relationship between lexical items and the text content area. For native English speakers, all three components play a significant role in reading comprehension (Edele, & Stanat, 2016). This is not true for non-native English speakers who are unaware of the text's difficulty level (Edele, & Stanat, 2016; Trapman et al., 2014).

Reading comprehension strategies are effective in shaping a person's ability to read and understand text (Roit, 2017; Sari, A. A., 2015). A person's use of different reading comprehension strategies such as activating background knowledge, summarizing, predicting, checking predictions, clarifying, asking questions, and finding answers are effective strategy approaches (Roit, 2017). Reading comprehension strategies should be implemented with active, objective-based, and self-regulated reading (Roit, 2017). Similar studies confirmed that implementation of reading comprehension assessment and instructional strategies assist readers identify problem areas and help prevent issues that occur while reading (Kendeou, McMaster & Christ, 2016; Sawangsamutchal & Rattanaovich, 2016). A proactive intervention strategy provides readers with tools to use while they are reading.

Some researchers are concerned about teachers' improper implementation of instructional reading strategies that can create situations in which students remain unaware of their specific reading problems (Roit, 2017). This unawareness may occur when the student struggles to understand what he or she are reading by focusing so intensely on reading the words that he or she cannot connect with the words' meanings (Roit, 2017). Due to diminished comprehension, the student may remain unaware that there are effective intervention strategies than can help resolve their reading problems (Roit, 2017).

Readers can overcome their reading problems and subsequent comprehension diminishment (Bulut, 2017; Fahad, 2015; Johnson, 2014; Papatga & Ersoy, 2016). Teachers should provide opportunities for students to self-monitor their reading comprehension then students will recognize their reading problem, work to improve their reading skills, and become better readers (Alotaibi & Tohmaz, 2017). Understanding their reading comprehension level is crucial for students of all levels. Teachers' use of quality instructional strategies should ensure better student motivation and improvement in their reading comprehension (Alotaibi & Tohmaz, 2017; Daniela, 2015).

There are many features of the text density as follows, passage difficulty-Variability in ORF performance has been linked to variations in text difficulty (Betts, Pickart, & Heistad, 2009; Hintze, Daly, & Shaprio, 1998). Christ & Silbergitt (2007) estimated the magnitude of standard error of measurement (SEM) for ORF scores across passage sets among 8,200 students in Grades 1-5. Results revealed that a major contributor to the observed magnitude of the SEM was variability in passage difficulty within passage sets. The SEM averaged 10 words read correct per minute across Grades 1-5. Francis et al. (2008) examined the effect of passage difficulty and presentation order on ORF rates among 134 students in Grade 2. Passage effects significantly altered the shape of students' growth trajectories and affected estimates of linear growth rates. Poncy, Skinner, and Axtell (2005) used generalizability theory to assess variability in ORF scores attributable to students, passages, and error among 37 students in Grade 3. Results revealed that 81% of the variance in ORF rates was due to student reading proficiency, 10% due to passage variability, and 9% due to unaccounted sources of measurement error.

Passage length- Passage length has also been reported to influence ORF rates. Biancarosa (2005) compared the predictive utility of ORF calculated for sentence reading and passage reading. Text length significantly affected the magnitude of correlations of fluency and comprehension, with passage reading rates explaining more variance (about 20%) in reading comprehension than sentence reading rates. Daane et al. (2005) examined the substantive influence of reading duration on reading fluency rates calculated for the first 60s and the full passage among students in Grade 4. They reported that for skilled students, reading fluency estimates obtained for 1 min of reading were

comparable to estimates obtained for the full passage. However, among struggling students, reading for shorter periods of time (i.e., 1 min) was associated with higher comprehension performance than reading for longer periods of time (i.e., full passage).

**Genre-** Several studies have demonstrated that children's reading performance differs by genre, defined as both text structure and format (Stamboltis & Pumfrey, 2000). Knowledge of text structure may signal students about information relevant to the text's topic or structure that in turn cues germane background knowledge (Perfetti, 1994). Among older students, narrative prose is easier to read (Graesser, Hoffman, & Clark, 1980) and better understood (Best, Floyd, & McNamara, 2008; Diakidoy, Stylianou, Karefillidou, & Papageorgiou, 2005) than expository prose. Cervetti, Hiebert, Pearson, and Jaynes (2009) reported that direct manipulations of genre where students read both a fictional narrative and expository text on the same topic did not differentially impact reading accuracy or reading rate. In contrast, Hiebert (2005) reported that students who read expository texts from science and social studies made greater gains than students who read narrative texts from basal readers.

**Language and discourse features-** Language and discourse features influence reading comprehension and could potentially influence reading fluency (Graesser, McNamara, & Kulikowich, 2011). Language and discourse features influence the activation of information during reading because ideas in text that are consistent with semantic and conceptual long-term memory are activated more quickly during reading (e.g., Collins & Loftus, 1975; Smith, Shoben, & Rips, 1974). Information in the online processing cycle during reading, which includes the current sentence and the highly activated information prior to the sentence being read, may reactivate information in working memory from previous processing cycles (Albrecht & O'Brien, 1993; Myers & O'Brien, 1998). Semantic overlap across processing cycles (e.g., redundancy) leads to faster processing times (Kintsch, 1988). Moreover, readers are more likely to reactivate information from previous processing cycles when the information in the online processing cycle contributes to comprehension and the evolving mental model of the text (O'Brien, Albrecht, Hakala, & Rizzella, 1995; Suh & Trabasso, 1993). Whereas consistent information across cycles speeds processing times, inconsistent information results in slower reading times because it violates a reader's goals or standards of

coherence. Under such circumstances, the reader must first identify the inconsistency and then engage strategic, comprehension monitoring processes in an attempt to maintain or repair coherence (Albrecht & O'Brien, 1993). Thus, language and discourse features likely influence the rate at which complex written texts can be reliably processed and a mental model of text can be built.

Recent research has helped consolidate frameworks for assessing language and discourse factors (Graesser et al., 2011). For example, Graesser et al. (2011) reviewed the automated text analyses systems that are currently used to scale texts on multiple characteristics and identified 53 measures that characterize the words, sentences, and connections between sentences associated with deep levels of comprehension. In an attempt to reduce the 53 measures to a small number of functional dimensions, Graesser et al. performed a principal component analysis (PCA) on a corpus of 37,520 texts and validated the PCA by examining the extent to which the z-scores of each factor varied as a function of genre (i.e., language arts, social studies, and science) and grade (grades were based on Degrees of Reading Power scores that were transformed into grade levels that aligned with the common core literacy standards of the Common Core State Standards Initiative, 2010; National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010). Results revealed that five functional dimensions of text aligned with the multilevel theoretical frameworks of reading comprehension and explained a significant proportion of the variability among texts.

The five dimensions include (a) Narrativity: "captures the extent to which the text conveys a story, a procedure, or a sequence of episodes of actions and events with animate beings"; (b) Referential cohesion: "the extent to which explicit content words and ideas in the text are connected with each other as the text unfolds"; (c) Syntactic simplicity is "higher when sentences have fewer words and simpler, more familiar syntactic structures"; (d) Word concreteness is "higher when a higher percentage of content words are concrete, are meaningful, and evoke mental images-as opposed to being abstract"; and (e) Deep cohesion is "higher to the extent that clauses and sentences in the text are linked with causal and intentional (goal-oriented) connectives" (Graesser et al., 2011). Recent research has shown that language and discourse factors can reliably

identify differences between written text and spoken discourse (Graesser, Jeon, Yang & Cai, 2007), among various sources, purposes, and authors of written texts (Crossley, McCarthy, Louwerson, & McNamara, 2007; Graesser, Jeon, Cai, & McNamara, 2008), and between texts of high and low cohesion (McNamara, Louwerson, McCarthy, & Graesser, 2010). However, little research has examined the extent to which these language and discourse features interact with characteristics of the reader to influence the rate in which passages are read.

Zone of proximal development is a teaching concept that teachers can use in order to gauge students' reading comprehension skills is the zone of proximal development (ZPD). Vygotsky (1978) defined ZPD as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers". Learning through imitation was once thought to be an activity that could be done by any student as long as students were given adequate instruction. However, vygotsky noted that students can only learn when a particular set of learning skills is in students' ZPD. Vygotsky (1978) noted, "Imitation and learning are thought of as purely mechanical processes. But psychologists have shown that a person can imitate only that which is within their developmental level". Nothing students' ZPD is important so teachers can accurately identify a student's mental developmental level and provide instruction that is meaningful. Vygotsky (1978) noted, "The state of a child's mental development can be determined only by clarifying its two levels: The actual developmental level and the zone of proximal development".

In today's culture, teenagers engage in various forms of social media. In the text, a major activity that the characters are engaged with is an instant chat room where the teenage characters communicate with other teenage characters using pennames, which is where Julio and Romiette are first introduced to each other. The teacher-researcher observed that every time the text's plot shifted to the chat room, which is often, student-participants got excited because they started to laugh at the pennames that the characters use while communicating with one another. The chat room component of the text kept student-participants engaged because this is a social activity that many teenagers take part in during their free time. The teacher-researcher has observed student-participants at lunch, before

school, and after school using their cell phones regularly to communicate with their friends on social media.

Chisholmrally (2020) stated that there are many ways or prompts of text engagement, the teacher-researcher created eleven ways or journal prompts that student-participants responded to throughout the duration of the research study pertaining to the two texts' cultural relevancy and engagement levels. Firstly, culturally relevant texts are texts that relate to readers culturally. These include similarities between the characters' and readers' home life, the language that the character use, and the issues that the characters face (bullying, gangs, peer pressure, relationships, etc.) respond to this journal prompt in at least two paragraphs (5-7 sentences per paragraph) pertaining to how this text, up to this point, relates to you culturally. Please use details and life experiences to respond to this journal prompt. Secondly, how does the language used by the characters in the novel relate to you culturally? Does the language used by the characters make the text more culturally relevant to your own personal experiences? Does the language used in the text make the readings easier to follow and more engaging? Please respond to this journal prompt in a minimum of two paragraphs (at least 5-7 sentences per paragraph) using details from your own life experiences to respond to the journal prompt.

Thirdly , the characters are White Americans, Mexican Americans, and African Americans. Does having characters that are the same race as the reader make the text more culturally relevant and engaging to read? Explain in detail in at least two solid paragraphs why you believe characters of the same race as the reader does or does not make the text more culturally relevant and engaging to readers. Be sure to include your own personal experiences in your response. Fourthly Julio represents a character from the lower class while Romiette represents a character from the middle class. Does having characters that represent the reader's economic standings make a text more culturally relevant to the reader as well as make the text more engaging and inspiring to read? When responding to this prompt, use your own personal experiences and perspectives to respond to the prompt Fifthly , in *The Outsiders*, the main characters are young adolescents (between the ages of 14-21). Does having characters that are around the same age as the reader make the text more culturally relevant to the reader as well as make the text more



engaging and inspiring to read? Be sure to respond to this prompt in at least two paragraphs (5-7) sentences per paragraph.

Sixthly, the main characters face life circumstance involving bullying, love, relationships, family life, etc. Does reading a text that covers topics such as these make the text more culturally relevant and engaging to the reader? Respond to this prompt in at least two paragraphs (5-7) sentences per paragraph. Seventhly, Julio and Romiette are faced with racism from a local gang because of their relationship. Do you think having a component of racism experienced by the main characters in a text makes the text more culturally relevant to readers as well as make the text more engaging to read?. Eighthly , what kind of story would you write that would be culturally relevant and engaging to you? Include any aspects pertaining to social circles, economic standings, family life, aspirations, customs, circumstances, etc. Respond to this prompt in at least two paragraphs (5-7 sentences per paragraph).

Ninthly, we are reaching the resolution of the text. What could the author have done to make the text more culturally relevant and engaging to you? What aspects of the text did or did not make the text culturally relevant or engaging? Respond to this prompt in at least two paragraphs (5-7 sentences per paragraph). Tenthly, we have finished the text. Overall, do you think the text was culturally relevant and engaging? Do you feel more engaged and inspired to read a text that is culturally relevant?. Respond to this prompt in at least two paragraphs (5-7 sentences per paragraph). In the eleventh prompt, final thoughts as in at least two paragraphs (5-7 sentences per paragraph) explain who you think should read this text and why . Explain whom you think this text would relate to culturally. Respond to this prompt in at least two paragraphs (5-7 sentences per paragraph).

Technology use in the elementary classroom is influenced by many factors and impacted by teachers' meaningful use of technology in classrooms. In this part, the researcher showed some factors influencing elementary teacher technology use, including the types and frequency of professional development for technology integration; teachers' confidence; the impact of reliable and accessible technology resources and devices; perspectives and beliefs of elementary teachers impacting technology implementation; instructional benefits to students and teachers; planning and implementation time of technology-enabled

lessons; and how learning spaces affect technology use by elementary teachers. Lastly, the researcher discussed technology use for blended learning in k-5 classrooms, including the use of digital platforms to provide students with targeted and beneficial support for academic performance; technology use for the development of flipped instructional environments; increasing students' interest and engagement in learning; and the challenges of implementing a blended learning environment.

Elementary teachers are impacted by the types and frequency of professional development offered for technology use in the classroom (Ruggiero & Mong, 2015). Engaging in ongoing professional development on technology integration positively impacted elementary teachers in two different studies. Fourth and fifth grade teachers who participated in 30+ hours of professional development on implementing technology shared the positive impacts computer-based training had on their classroom instruction (Coleman et al., 2016). Similarly, primary school teachers using information and communication technologies (ICT) and receiving ongoing technology training were found to use technology in their classrooms at increased rates (Hlasna et al., 2017). Although teachers share positive perspectives about training on technology integration, teachers do not always receive the training they need to successfully use technology in their classrooms. For example, Nikolopoulou and Gialamas (2015) found kindergarten teachers perceived a lack of technical and administrative support and lack of training as barriers to using technology. Another barrier indicated is the type of professional development offered for technology integration (Christensen & Knezek, 2017; Ruggiero & Mong, 2015).

The confidence level of elementary teachers has been shown to impact technology use in the classroom. When impacted by barriers like access to reliable technology, lack of training and administrative support, and large class sizes, elementary teachers who have high technology confidence, greater experience with technology, and have been teaching for fewer years are impacted less by the challenges of implementation (Nikolopoulou & Gialamas, 2015). Although confidence with using technology may lessen these factors and increase technology integration (Coleman et al., 2016), Spiteri and Rundgren (2017) found elementary teachers' confidence often stems from using technology in traditional ways, like for planning and delivery but not for content creation (Spiteri

and Rundgren, 2017). The lack of confidence also influences technology use. Additional studies with elementary teachers showed lack of confidence (Darling- Aduana & Heinrich, 2018; Phirangee, 2013; Ruggiero & Mong, 2015) as a factor in technology implementation noting specifically lesser confidence with unknown tools and devices due to inexperience with technology (Phirangee, 2013). Confidence with technology impacts the integration of digital tools in the elementary classroom.

Blended Learning (BL) as a teaching and learning method for the first time was mentioned in the academic and educational literature twenty years ago (Khodabandelou, Ali, Jalil, & Daud, 2016). Initially, studies about BL were focused on its effectiveness against traditional teaching and learning. However, in the recent researches put more attention on the practices, ways of application, proportions of the blend, and its effects on the learners' learning performance (Li, Wu, Dai, & Chen, 2017). The word blend itself has the meaning of mixing two or more things together. The same meaning is applied in the educational context- a mixture of two or more components of teaching methods, approaches, techniques, etc. The meaning of the term Blended Learning, as the name of the innovative method of instruction, is usually defined as a mixture or hybrid of traditional face-to-face (F2F) way of teaching with instruction via digital applications outside the classroom (Wallace, 2015; Hilliard, 2015; Lalima & Dangwal, 2017, The Glossary of Education Reform, 2014).

The term blended learning was first coined in the business world and more specifically in corporate training. Later, it was employed in higher education and finally in English language teaching (Sharma & Barrett, 2007). Many definitions have been given to blended learning. Gray (2006) stated that blended learning occurred when traditional delivery methods are combined with new technology. The implementation of technology requires either the use of certain software or online learning modes. Littlejohn and Pegler (2007) argued that while e-learning has to do with distance-internet learning, blended learning takes place when face-to-face interaction is combined with an online mode. Tarnopolsky (2012) added that blended learning has more of a synergic learning structure, creating a unity between traditional classroom learning with online learning, which allows for flexible learning and more opportunities for intensifying and practicing their learning.

A more detailed definition of BL was given by Horn, Staker, & Christensen (2015), who explain it as a formal education program during which a learner receives education via a blend of three components: online – with at least partial control over the time, pace, place, etc. by the students; sessions supervised by a teacher/instructor away from home, e.g. at school; and individualized modalities of the program for each student to provide the attainment of the designed learning goals. The proportion of each component or the BL model, however, can differ from school to school and even from class to class (Linton, 2018). Cerna & Svobodova (2018) compare BL with Hybrid Learning, which can be used interchangeably, emphasizing the necessity of blending of the teaching and learning components according to the needs of a particular student or a group of students, where the focus is not on the integration of technology into learning process, but on making a course more flexible for diverse learner abilities, demands and preferences.

Lalima & Dangwal (2017) give more a comprehensive definition of BL. They explain that BL is more than a mixture of face-to-face and online teaching and learning, and it consists of 13 components- a menu for a blend: face-to-face teaching; student's work with course content, such as printed material, online and offline resources; pair and group work; group discussions and brainstorming; use of e-library/digital library; virtual classrooms; online testing and evaluation (including immediate feedback by peers and instructors); e-tuition/a guidance in cyber space; educational blogs; webinars; youtube lectures; learning through video and audio recordings, such as animated videos or documentaries; and virtual laboratories. Thus, it is obvious that the definition of the blend and its components can vary from one school to another, but the purpose remains the same – to make learning modalities more flexible and appropriate according to the needs and capabilities of the learners.

Language is the most natural communication device that has been used by people from the very beginning of the history of humanity. We use language in written and oral form to transmit and receive information. Even though the major purpose remains the same, with the development of technology, the ways and formats of language we use change. Consequently, the methods and approaches to teaching and learning language also should change in order to meet the needs and requirements

of the today's world. Nowadays, language learners, especially English language learners, are expected to be able to use language in different contexts: real-time communication or face-to-face interaction, reading a variety of sources, listening to the speakers of different dialects and accents of English, writing various types and styles of texts, as well as communication in the virtual reality. To be ready to do so, it is essential to implement activities close to real-life situations or at least to imitate the reality in order to prepare students to use the language appropriately (Hall, 2016).

Stanley (2013) suggests language instructors to start from finding the answers to a number of questions trying to understand why to use the technology, who is/are the best audience/consumers of it, what are the most beneficial ways, time, and places to use technologies, etc. Having found the answers to these questions will help educators and learners to get the maximum benefit of available technological appliances. Stanley also emphasizes the importance of always having a second plan or a back-up plan in case the technology does not work as planned. Claypole (2016) believes that in BL teacher should play the role of a model, so, in order to create an effective blend in EFL/ESL teaching should be "learner-centered but teacher-driven". The focus should be put on learning the language and creativity, not on the enhancement of the learner's technological skills. The technology improves, develops, and changes so much the applications and tools that teacher's use. For example, what teachers used five years ago may not be applicable any more. The general principles of using technology to improve learners' language skills remain unchanged, while the devices and programs continue to change day by day (ibid). Thus, the teachers need first of all know the general principles and master step by step the new devices.

Okada and Sakamoto (2015) discuss BL application to reading skills' development. According to them, the EFL instructor can (1) hold quizzes and tests, (2) upload the reading materials that the students need, (3) give and obtain feedback via e-portfolios, and (4) spontaneously modify the lesson plan during the F2F class. On the other hand, the students can (1) communicate with their teacher whenever they need, (2) share materials, (3) send their requests or messages on their learning difficulties through social media and (3) are supported by peers and teacher in their out-of-classroom language learning activities. Dudeney and Hockly (2007)

speak about the following pedagogical considerations of BL implementation in EFL: delivery mode (what is the ration between the traditional and digital learning); materials and tasks design; and teacher-student relationships and roles. Khan (2005), on the other hand, mentions the following factors: institutional, pedagogical, technological, interface, evaluation, management, resource support, and ethical.

Blended learning can be very successful in the high school English classroom when the teacher uses the LMS to facilitate feedback about student work and conversations among peers (Tucker, 2012). High school English teacher and blended learning enthusiast Catlin Tucker (2012) devoted chapter six of *Blended Learning in Grades 4-12* to ideas for English teachers. Tucker (2012) explained lesson ideas to help English teachers utilize online tools to teach the Common Core curriculum standards for English Language Arts. Common Core Standards at the high school level require students to write about texts they have read. Using online tools in the LMS, students were often asked to discuss their writing with peers to give feedback and suggestions, improving writing skills. In addition, Tucker (2012) explained how these conversations lead to a deeper understanding of the text student read, improving reading comprehension.

Camahalan and Ruley (2014) conducted a two-week action research study utilizing blended learning to teach writing to 16 middle school students. Six writing lessons included a pre-assessment and a post-assessment. These teachers sought to answer their questions, "What happens to student learning when face-to-face writing instruction is supplemented with online instruction?" After a pre-assessment to determine students' strengths and needs, the students were divided by ability level into two groups, blended learning and traditional classroom learning. The teacher-researchers used MobyMax LMS to measure the improvement in grammar use in students' writing. Camahalan and Ruley (2014) noted an improvement in students' grammar use in their writing with a blended learning environment, a difference of 8.5% over the group of students who were instructed face-to-face. The technology component of blended learning in English classrooms can motivate students to write and improve their writing. The 2010 findings from the National Writing Project reported that technology allows students share their work with real audiences, a larger scope of readers and viewers, and allows students

to collaborate with more peers, thereby motivating them to write and improving their writing (as cited in Camahalan & Ruley, 2014). Camahalan & Ruley, (2014) study took place at a small private school with only 17 students in the Midwestern United States; however, important conclusions were made about student motivation and the benefit of using the LMS to tailor instruction to individual student's needs.

Huang and Hong's (2016) mixed methods study also investigated the effectiveness of blended learning in an English classroom. The experimental group consisted of forty 10<sup>th</sup> graders who participated in the flipped classroom model of blended learning. The control group included 37 sophomores from the same school. Participants were involved in pre and post testing to measure reading comprehension. Huang and Hong (2016) used Computer Assisted Language Learning (CALL), a common LMS in Taiwan. Huang and Hong (2016) researched two questions about the effect and the extent of a flipped classroom intervention on reading comprehension for students. Huang and Hong's (2016) study found reading comprehension significantly improved with the blended learning intervention.

Reading is an important component of academic development. The success at higher education institutions very much depends on the students' involvement in reading of the course materials. Lectures may not include all the details that students are expected to understand and acquire in the field. It is essential to develop not only students' ability to read and comprehend the reading texts in the classroom, but also to become autonomous readers outside the classroom. That is why the development of academic reading skills must be included in the goals of the university language preparatory program. Based on the level of student's language proficiency and the desired learning outcomes, the teacher can distribute the blend between face-to-face and off-set instruction for reading a specific text. The inventory provided in the table below is designed for EFL teachers, and can be used for selection of the reading activities on pre-, while-, and post-stages and the digital applications to promote blend.

#### Reading tasks and activities distribution of blend inventory

Readin	Task Examples	Face	Off	Examples of
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g stage		-to-face	-set	online/offline applications
Pre-reading	<ul style="list-style-type: none"> <li>• Guessing the topic of the text using illustrations, tables, graphics or headlines.</li> </ul>			Edmodo poll/quiz, Google Docs, Google Blog, etc.
	<ul style="list-style-type: none"> <li>• A group discussion/brainstorming about the predicted topic.</li> </ul>			Edmodo poll/quiz, Google Docs, Google Blog, etc.
	<ul style="list-style-type: none"> <li>• Trying to infer what the text will say.</li> </ul>			Edmodo poll/quiz, Google Docs, Google Blog, etc.
	<ul style="list-style-type: none"> <li>• Writing questions that can be answered according to the text.</li> </ul>			Edmodo Poll, Google blog, Pear deck, etc.
	<ul style="list-style-type: none"> <li>• Exploring key vocabulary.</li> </ul>			Google Docs
	<ul style="list-style-type: none"> <li>• Reflecting on or reviewing information from the previously read texts in light of the topic of the new text.</li> </ul>			Google Docs, Wikis, Google Blog, YouTube, etc.
	<ul style="list-style-type: none"> <li>• Watching a video or listening to a recorded material connected to the topic.</li> </ul>			YouTube, Podcast, VOA, etc.
	<ul style="list-style-type: none"> <li>• Other</li> </ul>			
While-reading	<ul style="list-style-type: none"> <li>• Scanning for some specific items of information (dates, numbers, names, etc.)</li> </ul>			Microsoft Office (Word, PDF, PTT + Find function), online



			resources, etc.
	<ul style="list-style-type: none"> <li>• Skimming for gist</li> </ul>		
	<ul style="list-style-type: none"> <li>• Answering questions</li> </ul>		Edmodo Poll, Blog, Google Docs/Classroom, etc.
	<ul style="list-style-type: none"> <li>• Examining emotions and attitudes of key characters.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Completing the sentences using information from the text.</li> </ul>		Edmodo poll/quiz, Google Docs, Google Blog, etc
	<ul style="list-style-type: none"> <li>• Filling gaps in a table, map, picture, etc.</li> </ul>		Edmodo poll/quiz, Google Docs, Google Blog, etc
	<ul style="list-style-type: none"> <li>• Creating students' own questions (based on the text) and asking each other.</li> </ul>		Edmodo poll/quiz, Google Docs, Google Blog, etc
	<ul style="list-style-type: none"> <li>• Determining sources of difficulty and seeking clarification.</li> </ul>		Google Hangouts, Edmodo Messaging etc.
	<ul style="list-style-type: none"> <li>• Writing down predictions of what will come next.</li> </ul>		Edmodo poll/quiz, Google Docs, Google Blog, etc
	<ul style="list-style-type: none"> <li>• Other</li> </ul>		
Post-reading	<ul style="list-style-type: none"> <li>• Discussion of what was new or interesting in the text.</li> </ul>		Edmodo poll/quiz, Google Docs, Google Blog,

			Flip Grid, etc
	<ul style="list-style-type: none"> <li>• Debates on controversial topics</li> </ul>		Skype, Messenger, Viber, etc.
	<ul style="list-style-type: none"> <li>• Comparing the presented information to the students' own culture/traditions/norms/morals/etc.</li> </ul>		Wikis, Blogs, etc.
	<ul style="list-style-type: none"> <li>• Summarizing the text (orally or in writing).</li> </ul>		Edmodo poll/quiz, Google Docs, Google Blog, etc
	<ul style="list-style-type: none"> <li>• Other</li> </ul>		

(developed by the researcher)

Reading academic texts, whether in a traditional way or reading eBooks can be quite boring for students even in a quite relaxed environment. Integration of some technologically-assisted tasks aims to engage students into reading effectively and to share the obtained knowledge with the peers. There is no single recipe for the reading class. The choice of the tasks and the teaching/learning style may differ from one text/class to another. Thus, it should be modified according to the situation, students' needs, the nature of the text, etc. Blending the tasks will allow teachers to save time for face-to-face discussions by implementing some of the tasks outside the classroom. Taking into consideration the speed of the development of educational technologies, especially the online and digital ones, it is only possible to predict the changes that expect the humanity in the nearest future. The claims of a possibility to replace a teacher, however, remain surrealistic, as interaction with technologies is not humane, which (besides the knowledge and skills) is essential in the process of learning.

### **Background of the problem:**

In spite of the importance of reading comprehension, there is a lack in reading comprehend skills among primary school pupils. Thus there is a need for finding an effective instructional strategies for developing reading comprehension among primary school pupils. In order to be fully

sure of the problem of this study, the researcher conducted a pilot study including some texts. It requires students to read the text and answer questions that follow it. This test has been applied to fifty of fifth year primary school pupils. The results of this pilot study confirmed the low level of the pupils in reading comprehension skills. So, it is clear that there is a great need for developing reading comprehension skills among primary school pupils. This study applied blended learning strategy based on text density for developing reading comprehension skills among fifth year primary school pupils.

#### **Statement of the problem:**

The problem of the present research can be defined in the fifth year primary school pupils' inefficient reading comprehension. Therefore, the present study is an attempt to investigate the effectiveness of blended learning strategy based on text density for developing reading comprehension skills among fifth year primary school pupils.

#### **Questions of the Study:**

To face this problem, the present research is an attempt to answer the following questions:

- 1- What are the features of using blended learning in primary classes?
- 2- What is the effect of using blended learning in improving the reading comprehension skills in difficult texts?

#### **Delimitations of the Study:**

The current research is limited into the following:

- Fifty fifth graders of primary school in El-Shobban Al-Muslimeen Language School in Benha at Quliobeya Governorate, Egypt.
- Some reading comprehension skills required for the fifth year primary pupils.

#### **Hypotheses of the study:**

- 1- There are no statistically significant differences between the mean scores of the experimental group and the control group in overall reading comprehension skills in the pre test of reading comprehension skills.
- 2- There are statistically significant differences between the mean scores of the experimental group and the control group in the post test of reading comprehension.

- 3- There are statistically significant differences between the mean scores of the experimental group and the control group in the post test of the reading comprehension sub-skills.

**Instruments and materials:**

To achieve the purpose of the study, two equivalent forms of reading comprehension skills test (prepared by the researcher) were used.

**Participants of the study:**

The participants of the present study consisted of 50 fifth year pupils from El-Shobban Al-Muslimeen Language School in Benha at Quliobeya Governorate, enrolled in the academic year (2021-2022). Two intact classes were selected for participating in the study; class 5/A (n=25) served as the experimental group and class 5/B (n=25) served as the control group.

**Procedures of the study:**

After the participants in the research have been selected, The participants of the study were divided into two groups, the experimental group (N=25) and the control group (N=25). The pre reading comprehension skills test was administered to the participants before the treatment. Then, the experimental group was taught using blended learning while the control group was taught using the traditional method. Then the post reading comprehension skills test was administered to both groups . Results of the study revealed that the program using blended learning was effective in developing reading comprehension skills among the primary school pupils.

**Findings of the study:**

The results of the research will be presented in the light of following hypotheses:

**1- Findings of the first hypothesis:**

The first hypothesis states that " There are no statistically significant differences between the mean scores of the experimental group and the control group in overall reading comprehension skills in the pre test of reading comprehension skills".

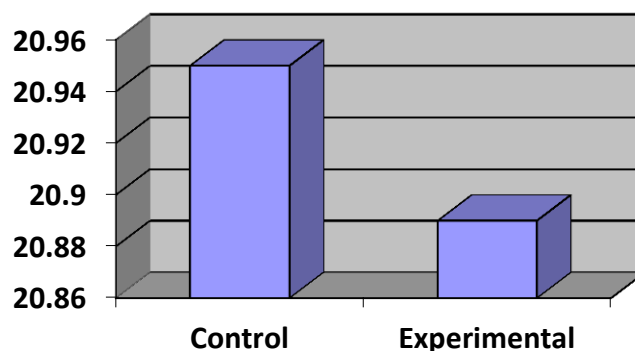
In order to verify the validity of the hypothesis, the t. test was used to calculate the differences. The following table shows this:

**Table ( 1 ) T.test results of the pre-administration of the general reading comprehension skills (overall) between the experimental and the control group**

Group	No.	Mean	Std. Deviation	S.D.	t-value	Level of Sig.
Control	25	20.95	1.12	49	8.79	0.94
Experimental	25	20.89	1.86			Not significant at 0.01 level

It is clear from table (1) above that t-value is 8.79 which is not statistically significant at 0.01. Thus, it can be concluded that the two groups were almost at the same level in general reading comprehension skills (overall) . The following figure shows this:

**Figure (1) : T.test results of the pre-administration of the general reading comprehension skills (overall) between the experimental and the control group**



## 2- Findings of the second hypothesis:

The second hypothesis states that " There are statistically significant differences between the mean scores of the experimental group and the control group in the post test of reading comprehension " .

In order to verify the validity of the hypothesis, the t. test for the independent sample was used to compare the mean scores of the two groups in the post administration of the reading comprehension skills test. The following table shows this:

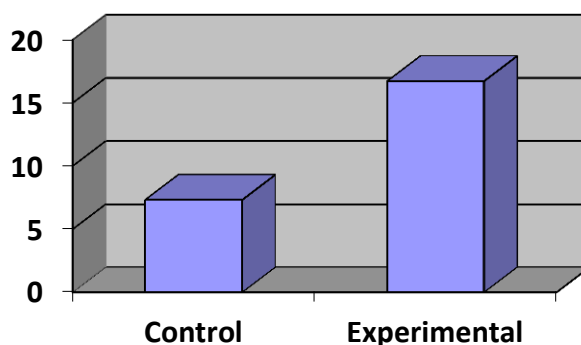
**Table ( 2 ) T.Value between the mean scores of the experimental group and the control group in the reading comprehension post test**

Group	No.	Mea	Std.	D.	t-	Level of	Effe
-------	-----	-----	------	----	----	----------	------

		n	Deviation	f	value	Sig.	ct size
Control	25	7.32	1.62	48	19.025	0.01	5.49 Large
Experimental	25	16.72	1.86				

It is clear from table (2) above that the estimated t-value 19.025 is statistically significant at 0.01 level. This means that there are statistically significant differences between the mean scores of the experimental group and the control group in the post test of reading comprehension in favor of the experimental group. These differences are due to the treatment of text structures the experimental group received. Moreover, in order to make sure of the effect of the text engagement strategy on the pupils performance in general reading comprehension. The effect size of the implemented reading strategy of text engagement on the pupils reading comprehension was calculated . The following figure shows this:

**Figure (2) : The mean scores of the experimental group and the control group in the reading comprehension post test**



### 3- Findings of the third hypothesis:

The third hypothesis states that " There are statistically significant differences between the mean scores of the experimental group and the control group in the post test of the reading comprehension sub-skills " .

In order to verify the validity of the hypothesis, the t. test was used. The following table shows this:

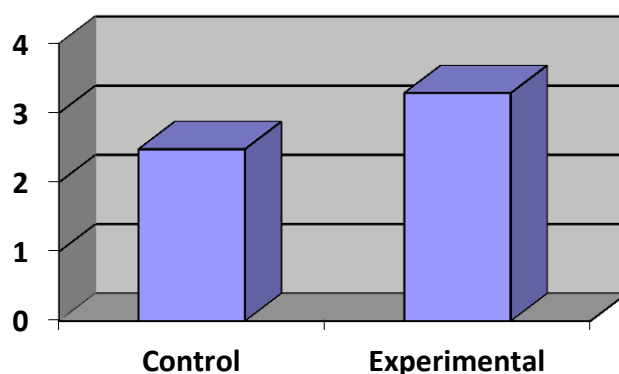
**Table ( 3 ) T.test results of the reading comprehension sub-skills in the post test between the experimental group and the control group (The first skill)**

skill	Group	N	M.	S.D	D .f	t- valu	Level of	Effec t size
		.						

						e	Sig.	
Identifying main or sub-character	Control	25	2.48	0.770	48	8.796	0.001	1.54 Large
	Experimental		3.29	0.277				

It is clear from table (3) above that there are statistically significant differences between the mean scores of the experimental group and the control group in the post test of reading comprehension sub-skills (The first skill). These differences are in favor of the experimental group. These differences are also attributed to the text engagement and text structures that the pupils were exposed to. The following figure shows this:

**Figure (3) : T.test results of the reading comprehension sub-skills in the post test between the experimental group and the control group (The first skill)**



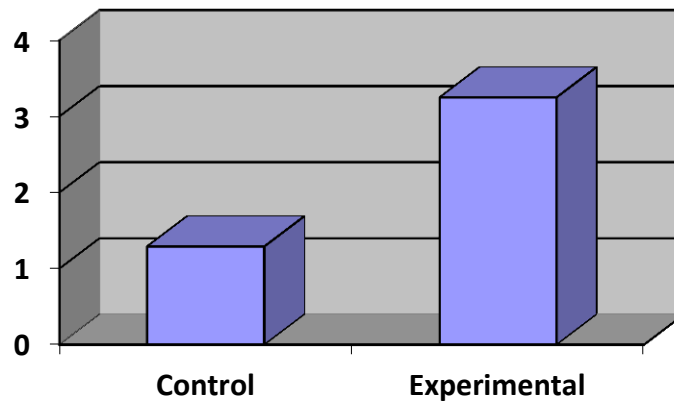
**Table ( 4 ) T.test results of the reading comprehension sub-skills in the post test between the experimental group and the control group (The second skill)**

skill	Group	N	M.	S.D	D	t-value	Level of	Effect
		.			.f			

							Sig.	size
Identifying the main and supporting ideas	Control	2	1.29	0.640	4	7.674	0.001	2.22 Large
	Experimental	5	3.25	0.823	8			

It is clear from table (4) above that there are statistically significant differences between the mean scores of the experimental group and the control group in the post test of reading comprehension sub-skills (The second skill). These differences are in favor of the experimental group. These differences are also attributed to the text engagement and text structures that the pupils were exposed to. The following figure shows this:

**Figure (4) : T.test results of the reading comprehension sub-skills in the post test between the experimental group and the control group (The second skill)**



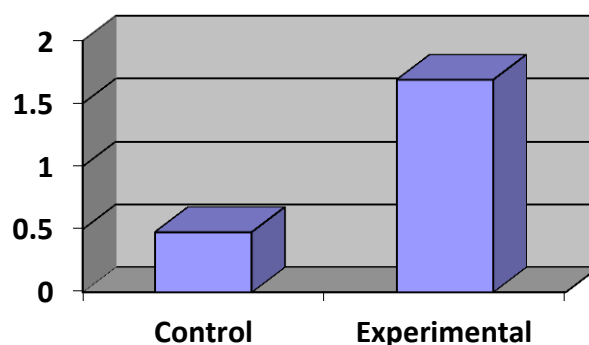
**Table (5) : T.test results of the reading comprehension sub-skills in the post test between the experimental group and the control group (The third skill)**



skill	Group	N	M.	S.D	D	t-value	Level of Sig.	Effect size
Drawing conclusion	Control	25	0.48	0.898	48	4.683	0.01	1.53 Large
	Experimental		1.69	0.790				

It is clear from table (5) above that there are statistically significant differences between the mean scores of the experimental group and the control group in the post test of reading comprehension sub-skills (The third skill). These differences are in favor of the experimental group. These differences are also attributed to the text engagement and text structures that the pupils were exposed to. The following figure shows this:

**Figure (5) : T.test results of the reading comprehension sub-skills in the post test between the experimental group and the control group (The third skill)**



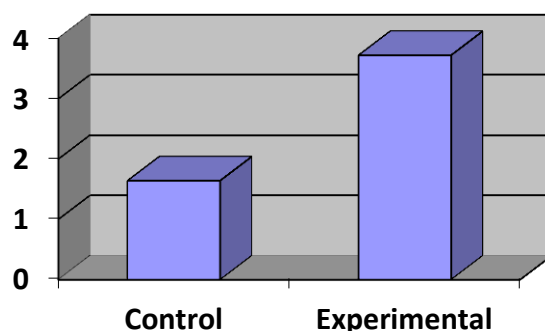
**Table (6) T.test results of the reading comprehension sub-skills in the post test between the experimental group and the control group (The fourth skill)**

skill	Group	N	M.	S.D	D	t-value	Level of	Effect

							Sig.	size
Identifying cause and effect	Control	2	1.64	0.569	4	11.75	0.01	Large
	Experimental	5	3.72	0.678	8	1		

It is clear from table (6) above that there are statistically significant differences between the mean scores of the experimental group and the control group in the post test of reading comprehension sub-skills (The fourth skill). These differences are in favor of the experimental group. These differences are also attributed to the text engagement and text structures that the pupils were exposed to. The following figure shows this:

**Figure (6) : T.test results of the reading comprehension sub-skills in the post test between the experimental group and the control group (The fourth skill)**



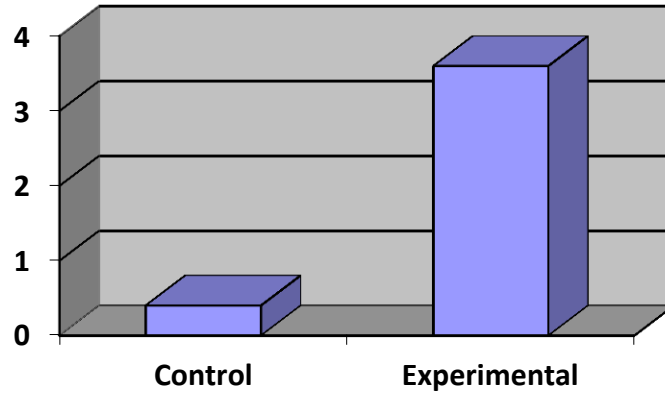
**Table (7) T.test results of the reading comprehension sub-skills in the post test between the experimental group and the control group (The fifth skill)**

skill	Group	N	M.	S.D	D.f	t-value	Level of Sig.	Effect size
Distinguish fact from opinion	Control	2	0.4	0.82	4	13.64	0.10	Large
	Experimental	5	3.60	0.816	8			

It is clear from table (7) above that there are statistically significant differences between the mean scores of the experimental group and the control group in the post test of reading comprehension sub-skills (The fifth skill). These differences are in favor of the experimental group. These differences are also attributed to the text engagement and text

structures that the pupils were exposed to. The following figure shows this:

**Figure (7) : T.test results of the reading comprehension sub-skills in the post test between the experimental group and the control group (The fifth skill)**



#### **Discussion of the results:**

In the light of the previous results, it can be stated that the pupils improvement in reading comprehension skills and sub-skills may be due to the fact that the use of knowledge of text structure to comprehend expository texts has been considered an important way for pupils as readers to build knowledge and coherent mental representation for encoding and retrieving information from the text, as text structure is hypothesized to help readers to understand how the important ideas of the text are inter-related. This result is consistent with Okada and Sakamoto (2015).

It is clear also from the results of the study that pupils performed well in the sub-skills of reading comprehension as a result of engaging in the text structure. Thus improvement can be attributed to the idea that text engagement strategies are usually constructed hierarchically which allows ideas to be presented in a hierarchical order based on importance. This result is consistent with Huang and Hong (2016).

During the treatment the pupils were exposed to all types of text structure including discriptive structure in which elements of a text are grouped and organized by association, and one element of association is subordinate to another (topic), in addition the discriptive structure conveys information about a topic by presenting attributes, specifics a settings. Sequence is a structure in which ideas are grouped on the basis of order a time. The comparison structure organizes information on the

basis of similarities and differences while the causation structure presents elements that are grouped before and after in time and are causally or quasi-causally related. Last, problem solution structure provides a way to organize main ideas in two parts, a problem and solution that responds to the problem by trying to eliminate it and memorizing information and making judgement during reading. One another benefit at it facilitates the identification of important ideas and their memorability. It is argued that when readers are processing information from a text and to limited cognitive capacity, they cannot remembers and learn everything presented.

Therefore, it has been suggested that focusing on high level or top-level of the text structure could help readers select a question and an answer that responds to the question by trying to answer it the case which helped the pupils to engage in the texts deeply and improve their comprehension. This result is consistent with Lalima and Dangwal (2017). The results also revealed that the pupils improved in their sub-skill of reading comprehension in the post treatment as a result of extensive practice in text structure engagement because knowing of text structure plays a crucial role in processing and the most important information through encoding. This result is consistent with Chisholmrally (2020).

### **Suggestions and recommendations of the study:**

In the light of the previous analysis and results, it may be concluded that:

- The findings suggest studying the effectiveness of different strategies of blended learning on student's apprehension of reducing apprehension and reading comprehension.
- Studying the impact of blended learning involvement improving and understanding text variety.
- Studying the effectiveness of blended learning strategy in developing pupil's understanding of text structure.

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### Appendix (A)

#### Reading Comprehension Skills Pre-Test

Name:.....

Class :.....

Dear pupils,

The following is a reading comprehension test, try to respond to it , the way you understand.

1- Read the following Text then answer the questions that below:

### THE JOURNEY OF THE MARMABILL

The Marmabill has lost her nest! Join her on her brave quest to get it back, as she travels through the rainforest. Along the way she'll meet fantastical creatures like wugs, key-keys, and even tankadiggies. As the adventure takes her from green treetops to a glowing underground cave, the Marmabill must discover for herself the true meaning of home. "When a buldabeast steals a marmabill's home, she is forced to venture out to find a new nest. On her journey, the marmabill meets gentle wugs and a helpful tankadiggy, but she also encounters less friendly creatures, like nasty key-keys and cranky fluthers. Follow her through the forest, from the wugs' warm kitchen to the fluthers' dangerous glowing cave. Will the earnest marmabill ever find a place to call home, or will she stumble upon something even more special than a simple nest? Tiffany Turrill's brilliant, vivid illustrations bring magic to Daniel Errico's charming tale of a diligent marmabill searching for a place to call her own. Both kids and adults will love Errico's silly nonsense rhymes—a great book for parents and children to read together! Join the marmabill's adventure through the rainy forest and meet all sorts of wacky creatures along the way!

- What did Marmabill lose ?  
.....
- How did Marmabill deal with them?  
.....
- What did Marmabill learn from them?  
.....
- How did Marmabill benefit from this situation?  
.....
- What is your opinion about Marmabill's adventure?  
.....

**2- Choose the correct answer:**

- Marmabill has lost her .....  
(watch – nest – ring)
- Marmabill did a good .....  
(adventure – trip – flight)
- Marmabill met fantastical .....  
(plants – stones – creatures)
- Marmabill was very .....  
(brave – afraid – bad)
- Marmabill has ..... her nest  
(lose – lost – losing)

**3- Make Sentences.**

- watching- Ali - television - now - is  
.....
- Dina - the zoo - yesterday - to - went  
.....
- played - Mona - and - yesterday - Yousef - volleyball  
.....
- I - my - did - yesterday – homework  
.....
- played - We - last - basketball - week.  
.....

**Reading Comprehension Skills Post-Test**

Name:.....

Class :.....

**Dear pupils,**

The following is a reading comprehension test, try to respond to it , the way you understand.

**1-Read the following Text then answer the questions that below:**

### Helping Others

Once there was a small boy named Shankar. He belonged to a poor family. One day, he was crossing through the forest carrying some woods. He saw an old man who was very hungry. Shankar wanted to give him some food, but he did not have food for his own. So he continued on his way. On his way, he saw a deer who was very thirsty. He wanted to give him some water, but he did not have water for himself. So he went on his way ahead. Then he saw a man who wanted to make a camp but he did not have woods. Shankar asked his problem and gave some woods to him. In return, he gave him some food and water. Now he went back to the old man and gave him some food and gave some water to the deer. They were very happy.

However, one day Shankar fell down the hill. He was in pain but he couldn't move and no one was there to help him. But, the old man who he had helped before saw him, he quickly came and pulled him up the hill. He had many wounds on his legs. The deer whomshankar had given water saw his wounds and quickly went to the forest and brought some herbs. After some time his wounds were covered. All were very happy that they were able to help each other.

**Moral: If you help others, then they will also help you**

- What does Shankar belong to ?

.....

- What does Shankar want to do?

.....

- How does Shankar help others?

- .....
- How do you do this in your life?
- .....

- What is your opinion about Shankar's behavior?
- .....

**2- Choose the correct answer:**

- Shankar helped the others. All were very .....  
(happy – sad – angry)
- Shankar ..... A deer who was very thirsty.  
(see – saw – seen)
- Shankar ..... Some food and water to the deer.  
(give – gave – given)
- Shankar was ..... through the forest carrying some food.  
(cross – crossing – crossed)
- Shankar ..... back to the old man.  
(go – went – gone)

**3-Make Questions.**

- did - When - start school ? - you  
.....
- did - When - you - go to the dentist ?  
.....
- start teaching? - When - your teacher – did  
.....
- When - did - start walking ? – you  
.....
- start watching television ? - did - When - you  
.....