Amalgamation of Technology Use and Collocation-focused Tasks in the Expansion of Reading Comprehension Capability of Turkish EFL Learners after Covid-19 Period Biographical Information

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Abstract
Drastic changes in education like depending on remote and online education during and after Corona Virus Disease 2019 (Covid-19) have been undergone globally. As a result, instructors and learners were convinced to pursue their objectives despite the complications of pandemic disease. To this end, this study focuses on the effect of extra-curricular collocation-based assignments on reading comprehension skill and the utilization of technology in the context of education. Thus, in this quasi-experimental study two homogeneous groups including sixty intermediate students from a state university in Turkey were selected. Reading comprehension instruction was given to both groups who participated in online education run by a Moodle Application. While the experimental group received additional collocation-focused education and assignments, the control group had traditional reading comprehension education without noticing the importance and conducive effect of collocations. To compare the means of the two groups pre and post-tests, and two independent T-tests were used. A meaningful difference in the means of the groups on the post-test of reading comprehension performance was obvious in the results section. Last but not the least, assignment, as an academic extra-curricular activity, had a considerable impact on Turkish intermediate EFL learners' foreign language reading comprehension ability after the pandemic lockdown period.

Keywords: Reading Comprehension, Collocation-Focused Tasks, Extra-Curricular Activity, Online Education

Introduction
The latest technologies associated with the internet contribute to the speedy promotion of learning and teaching processes at the university level, which is a primary goal for many educational authorities in the age of globalization. Technology is being seen as a new channel for providing students with a more dynamic, creative, and innovative educational environment, as well as making teaching more appealing and successful. The primary purpose of using technology in the educational process is to improve and enhance cooperative learning independence in the classroom. This experience of learning outside of the classroom stimulates students to develop their own learning process at their own speed and gain communication skills for their future goals. In technology-mediated education, a teacher’s major responsibility is to encourage students to be self-learners and to offer associated resources. The advancement of technology encourages new pedagogical approaches (Yedla, 2013). According to Ellis (1999), interaction is a social behavior that occurs when one person talks with another. As a new technology, social networking allows individuals to engage and collaborate more effectively, and it may be used by EFL students to expand their learning chances.
This kind of technology provides certain educational benefits for both students and instructors, such as more contact with less time and location constraints. Another advantage is getting to know a new manner of interacting and cooperating with the goal of learning (Lampe, Wohn, Vitak, Ellison, & Wash, 2011). The recent focus on online learning through technological devices necessitates unique methods of education and feedback.

The study of English is seen as a vital aspect in achieving professional success in a variety of fields, as well as a means for communicating with several groups, and technology-related equipment may facilitate this process. There are several research and innovations in the field of using wireless technology for various facets of language acquisition (Mosavi & Nezarat, 2012). Due to the various benefits of technology usage in education, such as accessibility, flexibility, affordable cost, and compact size, many researchers have been interested in this field and are researching the use of technology-related devices to enhance language learning and instruction (Huang, Huang & Lin, 2012). Although technology is seen as a development for learning in a new kind of setting with new facilities, it will not replace prior teaching and learning instruments since not all educational goals, materials, and activities are amenable to technological solutions. This sort of learning is distinguished by its potential in the context of learning, as well as its accessibility, personalization, spontaneity, and pervasiveness. Those who do not have enough spare time due to their long job hours may find such education intriguing. In this environment, busy individuals choose to acquire new information through portable devices rather than conventional classroom-based courses (Gay, Stefanone, Grace-Martin, & Hembrooke, 2001).

We involve ourselves in many different types of cognitive activities in daily life, and one of the most frequent ones is reading. Reading as a cognitive work is very common because we come across hundreds of reading instances every day i.e., reading a magazine. In all cases, we have different aims to read. It is important that our reading purpose and skill should match (McDonough & Shaw, 1993). Moreover, as Grabe and Stoller suggest, each purpose underlines and requires combining a couple of other skills and strategies (Grabe & Stoller, 2002).

Reading Comprehension is an essential and crucial ability for the study of English reading at the university level, especially for English as a foreign language student (EFL). Therefore, increasing reading comprehension abilities is crucial to the learners’ success. It is also regarded as a key talent for studying at the university level, in addition to learning through reading English books. Therefore, the importance of reading comprehension abilities to the success of a university course cannot be underestimated.

Learners believe reading in L1 is not the same as reading in L2. When asked to articulate their ideas on reading, they report that successful reading means answering comprehension questions correctly. This is mostly originated from learners’ being test oriented. According to researchers, the extent of one’s English vocabulary is directly tied to the success of one’s reading comprehension abilities. To put it another way, the quantity of one’s vocabulary is an important aspect in improving reading comprehension abilities. As a result, to improve reading abilities and comprehension, students must also expand their lexis.

There are a variety of methods for increasing vocabulary size, including learning straight from the classroom and studying essential vocabulary qualities, utilizing dictionaries, and acquiring vocabulary from context. Furthermore, it may be learnt by reading with a focus on meaning from non-specific education in two ways: by developing reading fluency and expanding vocabulary through external reading (Hunt & Beglar, 2005).

Organizing rigorous reading activities has been identified as a means of improving English vocabulary, particularly vocabulary size (Ghanbari and Marzban, 2013, Baleghizadeh and Golbin, 2010, Pigada and Schmitt, 2006, and Tiryaki and Tütüniş, 2012). The growth of vocabulary stems from the purposeful or unintentional acquisition of vocabulary information from a range of reading sources in a variety of forms, mostly from publications (paper-based texts) and online reading texts, particularly in online multimedia-based texts. Because extensive reading is necessary for vocabulary growth and vocabulary size improves reading comprehension, the most suitable and effective form of material for
extended reading should be employed. Multimedia reading is often thought to be more successful than text reading. This is owing to advances in communication technology, which allows students to study outside of the classroom by doing online using several communication devices.

In an EFL setting finding the link between extracurricular activities and learners’ educational achievement is a contentious subject. Participation in extracurricular activities is related to a variety of favorable student attributes. Most of the research on literature confirms extracurricular activities as a means of promoting good school attitudes and academic productivity (Beck, 1999; Brown & Herrity, 2001; Halpern, 1992; Ross et al., 1992; Antunez, 2000; Atkinson, 2011 cited in Atkinson, 2011).

Homework, as an extracurricular activity, can exert an impact on a variety of language abilities and components (Wang & Shiveley, 2011). The circumstance in which learners study independently and apply new material is linked to and connected with the writing and activities associated with homework. Teachers treat this type of learning experience in the same way that they would any other activity, aligning the planned activity to the learning goal. Some scholars argue that homework as an extracurricular activity should be addressed as a concentrated method for boosting knowledge, rather than as an afterthought to the English lesson. The circumstance in which learners study independently and apply new material is linked to and connects homework writing and practices (Antunez, 2000; Atkinson, 2011 cited in Atkinson, 2011).

According to Meara (1980), the importance of vocabulary in EFL and ESL situations was stressed in the 1980s. This emphasis on vocabulary has persisted to the present day (Meara, 2002). Throughout this period, studies on vocabulary have been conducted on two underlying assumptions: word knowledge is limited to meaning and learners know or do not know the word’s meaning. The main reflection of these beliefs might be found in vocabulary texts (Nation, 1990, 2001). Students were asked to match the vocabulary with their synonyms based on their conceptual meanings. In fact, in these assessments, word knowledge equates to the knowledge of word meaning and form.

Researchers and teachers have been inspired to quantify the amount of learners’ vocabulary using such studies and examinations (Goulden, Nation, & Read, 1990). Later research, however, discovered that vocabulary knowledge is more complicated than merely knowing the meaning and form of words (Nation, 2001), and that it includes a variety of factors such as word collocation, learners’ efficiency of lexical access, and understanding of lexicon (Read, 2000).

One of the important and problematic areas where the link between vocabulary knowledge and reading comprehension may be emphasized is the level of vocabulary knowledge required of EFL students to absorb texts relatively successfully (Laufer, 1992). Such studies may enable the identification of the learners’ vocabulary size and the determination of the text difficulty level that adapts to their present vocabulary knowledge. These results may have significant ramifications for Turkish vendors of EFL textbooks.

In the past, there was a period when vocabulary was neglected, but with the recognition of the importance of vocabulary in the field of EFL teaching, many techniques and approaches of teaching and learning vocabulary have emerged and collocations are just one of these techniques (Schmitt, 1997). The importance of collocations for the development of L2 vocabulary and communicative competence has been underscored by several linguists and language teachers. Jaen (2007) and Skrzypek (2009) indicate the importance of collocation by stating that one of the criteria for knowing a word is being aware of other words with which it keeps company.

Similarly, among the early advocates for the importance of collocations in L2 learning and their inclusion in L2 teaching is Brown (1974), who suggests that an increase in students’ knowledge of collocations will result in an improvement of their oral and listening comprehension and their reading speed. Hill (1999, cited in Richard & Rodgers, 2003) also supports the notion that “most learners with good vocabulary have problems with fluency because their collocational competence is very limited” and that, especially from lower levels, we should aim at increasing their collocation knowledge. Language learners should be aware of the importance of
collocations and use them in an effective way not only in spoken but also in written communication.

A collocation is a pair or group of words that are often used together (McCarty & O’Dell, 2005), and as to Lewis (2000:132), it is “the way in which words co-occur in a natural text in statistically significant ways”. This is a purposefully wide definition of collocations, and collocations are words that occur together with high frequency and have certain mutual expectancy (Moon, 1997).

According to Lewis (2008), the frequency and the strength of the collocations differ from each other, and language teachers have to know these differences; especially, when they appeal to students’ attention to collocations in the classroom atmosphere. As Lewis (2002:25) states, “Collocations are those combinations of which occur naturally with greater than random frequency” and the lexicon of the language consists of not only individual words but also multi-word units that include fixed expressions, semi-fixed expressions and collocations. Among these units, collocations have a great role in language teaching as they “make up a huge percentage of all naturally-occurring text, spoken and written (Hill, 2000:53). Collocation, in fact, is not a question of right or wrong as any two words in the language can combine to form a collocation. However, although these combinations will not be wrong, they may be unusual, unnatural or very unlikely considering their lack of co-occurrence. Thus, “collocation is all about what the most likely combinations of words are; it is all about probabilities” (McCarthy et al., 2010:28).

Collocations fall into two major categories as lexical and grammatical. Lexical collocations “combine two equal lexical components” i.e. have a problem and grammatical collocations “combine a lexical word, typically a noun, verb or adjective, with a grammatical word” i.e. have difficulty in (Lewis, 2000:134).

Very few lexical collocations seem superficially “logical” as the elements of the combination and the combination itself have a literal meaning i.e., close/open the window whereas many include “a partially non-literal, metaphorical or idiomatic element” i.e., break the silence, which suggests that, like other idioms, collocations are mostly not fully predictable from their component words (Lewis, 2000:135). As Lewis (2002) argues, collocations are also arbitrary: it is possible to say high/tall building whereas it is not possible to say *high boy, but tall boy is the only possible combination. This also suggests that, although different synonyms can collocate with the same word i.e., strong/powerful (wo)man, some collocations occur with only one of these synonyms i.e., strong coffee or powerful engine. Similarly, the same word collocates differently when antonymy is considered i.e., dark hair – fair hair (not light/bright hair).

As Hill (2000) suggests, “it is useful to think of collocations on a spectrum from those that are probably unique/fixed/strong to those that are flexible and weak” (63) and classifies collocations based on this notion of collocational strength as follows:

Unique collocations refer to the words that collocate with certain words in a fixed way and that are not used with any other words. Shrug our shoulders can be given as an example to show the uniqueness of shrug as we shrug our shoulders but no other part of our body.

Strong collocations are the words which, although they are not unique, collocate with a small number of words. For instance, addict collocates with a limited number of words including alcohol, cocaine, heroine, chocolate.

Medium strength collocations are the ones that are made up of common words in English. Considering they “make up a large part of what we say and write” in English, this category should be prioritized in teaching (Hill, 2000:64). Examples of this type of collocations include speak a language, lose time, make friends, hold a conversation, etc.

Weak collocations occur between two common words each of which may collocate with many other words. They can form hundreds of collocations and, thus, are more predictable. Many things can be red, long/short, good/bad, etc and a number of combinations is possible including a red pencil/car/shirt, (a) long hair/river/, a good day/chance, etc.

Another point to be made regarding the meaning of lexical collocations that can be taught in lower levels is de-lexicalized verbs. Verbs including get, have, do, make, take, keep, etc are called de-lexicalized verbs as they have little lexical meaning on their own and pick up their meaning from their
collocations (McCarthy et al., 2010). For example, have in the combination of have breakfast means eat whereas it means possess in have a sister. As Lewis (2002) states, English has many lexical items consisting of a de-lexicalized verb and a noun and Intermediate learners need to know a few them including make a mistake, do sports, take/have a responsibility, get a job, keep a secret, etc.

Apart from grammatical-lexical distinction, a broader continuum is also suggested by Howard’s model (1992):

- **Figurative idioms**: the combination has a figurative meaning but preserves a current literal interpretation. (e.g., do a U-turn, in the sense of ‘completely changing one’s policy or behavior)
- **Pure idioms**: the combination has a figurative meaning. Moreover, it does not preserve a current literal interpretation. (e.g., blow the gaff)
- **Restricted collocations**: One element has a non-literal meaning at least, and at least one element is used in its literal sense. (e.g., perform a task)
- **Free combinations**: All elements of the word combination are used in a literal sense. (e.g., drink tea)

The purpose of this research was to see how collocation-focused extracurricular activities affected learners’ reading comprehension abilities, which are utilized as measures of academic progress for Turkish EFL students.

**Methodology**

The following research question may be addressed in the light of the problem and the study’s objective:

**RQ**: To what extent can extracurricular collocation assignments stamp on online education of intermediate EFL students’ reading comprehension?

Given the research topic posed above, the following null hypothesis might be developed:

**H0**: Extracurricular collocation assignments had no discernible influence on the online education of intermediate EFL learners’ reading comprehension ability.

**Participants**

Around 60 intermediate students (both female and male) from a Turkish government university who took online education after the pandemic Covid-19 period participated in the study. To homogenize the study’s sample, these people were picked using an online placement test (Cambridge Placement Test). The participants were all in their early twenties. Individuals were divided into two groups of equal size at random, with one serving as the control group.

**Pre-test Reading Comprehension Performance Check list**

During the pre-treatment stage, learners were asked to take a 40-question reading comprehension online exam during the first session. The test was selected from the TOEFL sample questions. Students were required to complete the test in sixty minutes.

**Post-test Reading Comprehension Performance Checklist**

After 10 sessions of online education run by the Moodle App, the participants were given another online reading comprehension exam to complete in the last session. Once again, this reading comprehension exam, which included 40 questions, was based on the TOEFL sample test questions. The pretest and post test were conducted separately.

**Procedure**

The following procedures were done to generate appropriate responses to the study topic described previously:

To begin, a Cambridge placement online exam was administered to EFL students to ascertain their homogeneity and to identify intermediate language learners. The aggregate score was 120. Intermediate learners were defined as those who correctly answered 80 to 100 questions out of 120.

Following that, learners were randomly allocated to one of the two groups: control or experimental. Later, individuals in both groups were asked to complete the TOEFL reading comprehension online exam to see if they had the same level of competence on reading comprehension performances prior to receiving the treatment.

Following that, the researcher completed the treatment, which lasted ten weeks and consisted of one session every week lasting 90 minutes. Both groups of learners (experimental and control) got the
same online training on how to improve their reading abilities; however, the experimental group received an additional collocation-focused extracurricular program (as out of class after class assignment) on their google classroom.

The last session required participants to appear for another online reading comprehension test. This post-test was later assessed using the TOEFL scale for academic writing. The average score was used to calculate the post-test reading comprehension score for the learners.

Design
The current research used a quasi-experimental approach that included a pretest–treatment–post-test cycle. Doing collocation-focused activities in the context of assignment writing (academic extracurricular activity functioned as the independent variable, while reading comprehension performance served as the dependent variable) were both included in the study.

Data Analysis
The purpose of this research was to see how extracurricular collocation assignments affected intermediate EFL students’ reading comprehension. The data were checked for normality before statistical tests were run. The mean and standard deviation were used to calculate the descriptive statistics in Table 1. (SD).

<p>| Table 1 Descriptive Statistic of Pre-test |</p>
<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>30</td>
<td>39.500</td>
<td>4.49497</td>
<td>0.88274</td>
</tr>
<tr>
<td>Control group</td>
<td>30</td>
<td>39.100</td>
<td>4.16396</td>
<td>0.80872</td>
</tr>
</tbody>
</table>

Table 1 shows the pre-test mean scores and standard deviations for the experimental and control groups. The treatment group scored a 39.500 mean score, whereas the control group obtained a 39.100 mean score. There was no statistically significant difference in the two subject groups’ pre-test reading comprehension ability, according to the findings.

The existence of differences between the experimental and control groups was verified using an independent Sample t-test to guarantee participant homogeneity. There was no statistically significant difference in mean between the control and experimental groups, as indicated in Table 2, t (42) =.289, p>.05. Consequently, both groups may be considered homogeneous.

| Table 2 Independent Sample t-test of Pre-test |
| --- | --- | --- | --- | --- |
| T-test for Equality of variance F | Sig | T | T-test for Equality of mean df | Sig.(2 tailed) |
| Equal variance assumed | 0.115 | 0.756 | 0.289 | 37 | 0.778 |
| Equal variance not assumed | 0.289 | 36.769 | 0.778 |

Table 2 shows that there was no statistically significant difference between the two study groups. The participants’ reading comprehension scores did not differ significantly between the two groups on the pretest.

Each of the study’s two groups received a post-test. A second independent sample t-test was employed to compare the individuals’ performance.

| Table 3 Descriptive Statistics of Post-test |
| --- | --- | --- | --- |
| Groups | N | Mean | Std. Deviation |
| Experimental | 30 | 45.365 | 3.74006 |
| Control group | 30 | 30.756 | 3.915132 |

After establishing that the groups were homogeneous and the data were normal, the post-test was examined using parametric statistics. We investigated the mean differences using the independent sample t-test since we were dealing with two separate groups’ means. Table 3 contains descriptive statistics.
A sample t-test was used to see whether there were any variations in post-test performance between the experimental and control groups, as well as if extracurricular activities influenced the experimental group’s reading ability. Table 4 shows that the mean difference between the control and experimental groups was statistically significant, \( t(42) = 5.328, p < 0.05 \).

Table 4 Independent Sample t-test of Post-test

<table>
<thead>
<tr>
<th>Equal variance assumed</th>
<th>Equal variance not assumed</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-test for Equality of variance F</td>
<td>Sig</td>
</tr>
<tr>
<td>0.004</td>
<td>0.951</td>
</tr>
<tr>
<td>5.328</td>
<td>38.916</td>
</tr>
</tbody>
</table>

Table 4. also summarizes the participants’ post-test reading comprehension performance. It is apparent that the experimental group’s performance improved because of collocation-focused activities completed as an extracurricular activity. According to the statistics, there was a statistically significant difference between the two study groups at the post-test. When compared to the control group, which got standard reading comprehension training, the experimental group’s reading comprehension skills improved considerably, according to the independent sample t-test results.

The reliability indices for the KR-21 reading comprehension pretest and posttest were .86 and .91, respectively as shown in Table 5.

Table 5 KR-21 Reliability Indices

<table>
<thead>
<tr>
<th>N</th>
<th>Mean</th>
<th>Variance</th>
<th>KR-21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>44</td>
<td>15.83</td>
<td>18.097</td>
</tr>
<tr>
<td>Post-test</td>
<td>44</td>
<td>27.38</td>
<td>77.933</td>
</tr>
</tbody>
</table>

Discussion and Conclusion

The findings supported claims made in the ESL literature (Beck, 1999; Brown & Herrity, 2001; Halpern, 1992; Ross et al., 1992), which advocated for the use of homework programs as extracurricular activities to boost learners’ educational achievement and academic performances such as vocabulary learning and reading comprehension knowledge. The above-mentioned researchers discovered that participating in out-of-classroom academic-oriented programs, such as watching a film, listening to a story, summarizing lectures, and the like, improved learners’ standardized test scores in English writing and reading comprehension.

English language learners who participated in the current study’s google classroom-based homework assignment improved significantly in their foreign language reading comprehension scores. The reality is that foreign language growth in general, and reading improvement in particular, are process-oriented, and learners exercise relative control over their learning via a continual method of feedback from the instructor and, sometimes, a peer. The results support the notion that out-of-class academic useful assignment is most effective when it increases students’ assessments of their ability to succeed in English courses.

However, the outcomes of this study contradicted the position taken by certain other researchers (Morrison et al., 2000) who argue against out-of-class after-school academic activities such as homework as extracurricular activities. These experts argue that non-academic after-school activities should be prioritized to boost second language learners’ performance.

Given that Turkish students are dealing with English as a foreign language, the researcher may feel comfortable proposing that extracurricular academic homework, such as collocation-focused assignments on google classroom, may be more effective than the conventional method of teaching English to learners via pure reading strategies, no matter online or face to face, regardless of the importance of vocabulary. In addition, like many language learners, the students in this study tended to focus on individual words more than chunks. However, they need to focus on the meaning, form, and use of lexical collocations to be more competent language users.

On a post-test of reading comprehension skills, the researchers discovered a statistically significant difference between the experimental and control groups’ averages. As a result, it was observed that collocation-focused activities as extracurricular
academic activity had a substantial impact on
the foreign language reading skills of Turkish
intermediate EFL students during online education.

As Lewis (2002) and McCarthy et al. (2010)
suggest, collocational awareness is not advanced
language, and it can be introduced from the earliest
stages. Teachers could present collocations and
help learners notice them in meaningful context
through awareness raising activities such as
identifying exercises. A long with reading texts,
songs, stories, realia and visuals, corpora analysis
and concordancing can also be an effective tool
to help learners notice a variety of collocations as
“they provide much richer sources of co-textual
information than dictionaries” (Lewis, 2000:40).

Controlled practice activities including gap-fill,
collocation grids, sorting, selecting, ranking,
matching and freer practice activities where learners
are asked to produce the newly-learnt collocations
in oral or written production help conversion of in
put to in take allowing learners to proceduralize their
knowledge of collocations. As McCarthy et al. (2010)
state, one of the most important aspect of learning
collocations is to record them and teachers should
ensure that learners organize and record useful lexical
collocations through different recording formats such
as mind maps, personal category sheets, collocation
boxes, etc. More over, creating opportunities to
recycle collocations is of utmost importance as this
helps long-term acquisition and retrieval.

Learners who were given collocation-focused
homework out performed those who were given
regular reading assignments. This shows that
collocation-focused homework assignments have a
considerable impact on a student’s reading ability.
Several sorts of homework, according to Nation and
McAlister (2010), may engage students in different
parts of learning. The findings of this study support
the positive impact of homework on the development
of SL/FL abilities such as reading comprehension
(Beck, 1999; Warger, 2011).

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