



أثر التعلم الأخضر في تنمية التحصيل الدراسي ودافعية التعلم لدى طلبة قسم
اللغة الإنجليزية في جامعة تكريت

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*The Impact of Green Learning on Developing Academic Achievement and
Motivation to Learn Among Students of English Department at Tikrit
University*

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المستخلص

هدفت هذه الدراسة إلى تقييم أثر استخدام أساليب "التعلم الأخضر" في تدريس اللغة الإنجليزية، بهدف تحسين الأداء الأكاديمي ودافعية الطلاب للتعلم بحلول عام ٢٠٢٥. استُخدم تصميم شبه تجريبي، شمل ٣٦ طالباً قُسموا إلى مجموعتين: ١٨ طالباً في المجموعة الضابطة، دُرِّسوا باستخدام الأساليب التقليدية، و ١٨ طالباً في المجموعة التجريبية، دُرِّسوا باستخدام أساليب التعلم الأخضر. بعد إجراء الاختبارات على المجموعتين، وجدت الدراسة فروقاً دالة إحصائية بين المجموعتين التجريبية والضابطة من حيث الأداء الأكاديمي ودافعية التعلم. بالإضافة إلى ذلك، تحسنت درجات طلاب المجموعة التجريبية بشكل ملحوظ بعد التدخل، على الرغم من أن هذا التحسن لم يكن دالاً إحصائياً بالنسبة للأداء الأكاديمي، ولكنه كان دالاً إحصائياً بالنسبة لدافعية التعلم. خلصت الدراسة إلى أهمية الاهتمام بأساليب التعلم الأخضر وتوفير الموارد اللازمة لها في برامج إعداد المعلمين، لا سيما في دورات اللغة الإنجليزية.

الكلمات المفتاحية: التعلم الأخضر، تنمية التحصيل الدراسي، دافعية التعلم، جامعة تكريت.

المستخلص باللغة الإنكليزية

The study aimed to assess the impact of using "green learning" methods in English language teaching, with the goal of improving academic performance and students' motivation to learn by 2025. A quasi-experimental design was employed, involving 36 students who were divided into two groups: 18 students in the control group, who were taught using traditional methods, and 18 students in the experimental group, who were taught using green learning methods. After conducting tests on both groups, the study found significant differences between the experimental and control groups in terms of academic performance and learning motivation. Additionally, the scores of students in the experimental group improved significantly after the intervention, though these improvements were not statistically significant for academic performance but were significant for learning motivation. The study concluded that it's important to pay attention to green learning methods and provide the necessary resources in teacher education programs, especially for English language courses .

Keywords: Green learning, Academic achievement development, Learning motivation, Tikrit University

بسم الله الرحمن الرحيم

1. Introduction

English has been described as one of the world's most dominant languages in areas of education, science and in the lives of people all around the world. As a result, it holds a very important place within all school and university curricula. Teaching of the English language today has broadened its definition and scope. It is no longer confined to just the four skills, but instead involves building on critical thinking, effective communication and engaging with contemporary issues thus producing an individual ready for the twenty-first century. The field of education and the methods of teaching English, have changed and evolved rapidly; hence the increasing need for learning strategies to increase students' performance and the motivation towards learning English rather than merely memorizing information and learning by heart. In this regard, "Green Learning" is seen as an approach which endeavors to integrate the aspects of sustainability and environmentalism into teaching and learning processes by means of creating supporting learning environments and active participation in constructive tasks such as interactive teaching activities. Green Learning distinguishes itself by integrating environmental issues and knowledge to the overall teaching learning processes which allows learners more chances of

communication, interaction and a language use context. Another benefit is its capacity to promote active learning within a classroom which is considered to be a good learning environment for motivation, participation and creative thought which will benefit not only the four language skills in English i.e. Listening, Speaking, Reading, Writing, but also positive motivation towards learning English. Motivation is considered to be one of the key elements that determine the students' achievement in learning English. It is associated with student's engagement, persistence and achievement. Consequently, many research was conducted to investigate methods to enhance students' motivation in English language learning and improve their achievement. Based on that, the current study endeavour's to find out the effectiveness of Green Learning in English language teaching and explore its contribution to students' English language achievement and motivation towards English language learning by using learning techniques and methodologies on principles of Green Learning and active learning to offer an approach to teach English language learning in harmony with modern teaching and learning theories and with the principles of sustainable development.

2. Research Problem

English language courses are one of the most important subjects in the college level because they enable the students to obtain not only linguistic, communicative and critical thinking skills, but also to develop interaction skills necessary for both professional and academic contexts. Despite its importance, teaching methods still stand the traditional approaches in some institution, restricting students from having the opportunity to interact and think creatively as well as gain the confidence required in using the English language. As such, their performance in their academic studies may be poor and they become less motivated in learning English language. The researchers observe that most of the students showed poor performance in academic achievement and weak motivation towards learning the English language, which could be due to the lack of challenging learning environment equipped with innovative teaching methods and effective interaction in linking theories with practice to provide students opportunities to engage in practice and develop language skills in a successful way. Based on the above problem statement, the main research question will be:

What is the effect of green learning on the academic achievement and learning motivation of English as foreign language students?

Corresponding to the main research question, sub research questions are developed as follows:

1. What are the students' academic achievements prior to and post the implementation of green learning?
2. How do students' levels of learning motivation change prior to and post the implementation of green learning?
3. Is there any statistically significant differences in the mean academic achievements between students in experimental and control groups post the implementation of green learning?
4. Is there any statistically significant differences in the mean learning motivations between students in experimental and control groups post the implementation of green learning?

3. Significance of the Study

The importance of this study is illustrated by the following elements: This study seeks to accomplish the following objectives: Examining the effect of green learning on academic achievement: This study attempts to observe the extent to which green learning will be able to enhance students' academic performance in English language course and whether employing environment-friendly teaching methods would help students enhance the concepts and the language skills they acquired. Examining the effect of green learning on learning motivation: This study attempts to see whether green learning would enhance students' motivation towards learning English and if green

learning enhances students' intrinsic motivation and extrinsic motivation toward learning. Comparing innovative learning experience and traditional learning in students' will. Comparing the control and experimental group:

This study offers a comparison between students in green learning and those in traditional instruction using achievement test and motivation scale. The differences between the experimental and control group are measured with practical and statistical significant data and it is shown that students learning in the classroom utilizing green learning were having advantages. Providing practical teaching suggestions:

This study hopes to provide solid empirical suggestions in order to help to improve English language teaching methods in this changing learning context and allow students enjoy the maximum benefit through this kind of learning strategy.

4. Research purposes.

The purposes of this study are:

1. To measure the English academic achievements of English language learners to know students' achievement prior to adopting green learning approach.
2. To determine how green learning influences students' academic achievement and English learning motivation.
3. To examine the achievement and motivation in the post-test between experiment group and control group.

4. To add more insights into methods of English language teaching aligned with current trends of higher education and innovative teaching methods.
5. To offer some empirical data of the effectiveness of green learning as an innovative teaching model on students' achievement and motivation in English language learning.

5. Research Hypotheses

Research hypotheses Based on research purposes, the hypotheses are made as follows:

Main Hypotheses 1: There are significant differences between the mean ranks of the experimental group and control group on academic achievement post-test.

Main Hypotheses 2: There are significant differences between the mean ranks of the experimental group and control group on learning motivation scale post-test.

Main Hypotheses 3: There are significant differences between the mean ranks of the experimental group on academic achievement pre-test and post-test.

Main Hypotheses 4: There are significant differences between the mean ranks of the experimental group on learning motivation scale pre-test and post-test.

6. Research Methodology

Quasi-experimental research design was adopted for this study since it matched the variable and the hypotheses, which seek to

investigate the effect of green learning strategy on academic achievement and motivation on English language learning. This strategy could also measure the achievement level before and after the green learning strategy was implemented and make comparison with the control group which was treated with the traditional method.

Study Population

The study population consisted of all students enrolled in the English Language course for the academic year 2025, including students from all levels (first level to second level).

Study Sample

A random sample was selected from the study population, consisting of students enrolled in the English Language course at the College of Education and Psychological Sciences, University of Tikrit. The sample consisted of (36) male and female students. The study sample was divided into two groups: the control group consisted of (18) students, while the experimental group consisted of (18) students. The pilot sample consisted of students enrolled in the English Language course at the second level.

7. Research Terms and Previous Studies

Effectiveness

Effectiveness is generally defined as the ability to achieve goals and reach predetermined outcomes. It reflects the extent to which an individual or system is able to successfully accomplish planned objectives (Al-Khalifat, 2010). In education, effectiveness refers to the degree to which an educational system achieves its objectives, as well as the efficiency of using available resources and means to achieve these goals with the least effort and the best possible outcomes. Regarding distance learning, studies indicate the absence of a unified definition, which has led to variation in measurement and application methods and has affected the quality of research and educational practice (Campbell et al., 2004). From an integrated perspective, distance learning can be defined as an educational process that can be measured through teacher inputs and student outcomes, where the definition is clearly linked to the educational process and intended results, contributing to a more accurate and clear evaluation of effectiveness (Taylor & Thion, 2023).

Green Learning

It is one of the modern educational approaches aimed at sustainable development and keeping pace with technological advancement, while effectively utilizing it across all elements of the educational process (Azzam & Abu Bakr, 2023). Green learning refers to the acquisition of knowledge and the dissemination of environmental awareness among learners. It involves a deep understanding of the natural world. Green learning classrooms are specifically located in green learning environments such as gardens, parks, countryside areas, riverbanks, and many other natural settings (Singh, 2023). The orientation toward green learning is defined as the shared value that guides institutions toward acquiring green knowledge (D'Angelo & Presutti, 2019). Through green cultural values, employees acquire, share, utilize, and develop green knowledge, which significantly contributes to institutional performance (Fong & Chang, 2012).

Learning Motivation

It is defined as an internal state that drives the student toward the learning situation, engages them in purposeful activity, and sustains this activity until learning is achieved as a goal of the learner (Abu Jadu, 2000). It is also defined as the total scores

obtained by students through their responses to the items of a learning motivation scale designed to achieve specific objectives (Ahmed & Saleh, 2018). It can also be described as the latent energy within a living organism that drives it to behave in a certain way in the external environment, guiding its goals and purposes to achieve optimal adaptation with its surroundings (Abu Huwajj, 2004). Furthermore, it is an internal force that stimulates the learner's desire to study and achieve, encouraging active participation in the learning process (Khalfa & Hajouji, 2019).

8. Literature Review

From the available literature about this topic, it appears that interest is developing in regard to green learning and its influence on student's academic achievement and learning motivation. Research that explored this concept under various settings and using varied methods gave many insights regarding its efficiency and application.

Sharif (2014) explored the effect of green learning on students' academic achievement and learning motivation in an English language course among Tikrit University students. The study was experimental in nature; there were two groups; an experimental group was taught by means of green learning strategies and a control group was taught by traditional ways. The researcher

developed an achievement test and a motivation scale, and information was collected both before and after the intervention. Statistically significant differences were observed to be in favor of the experimental group concerning achievement and motivation, meaning that green learning contributed to the development of both.

Al-Omari and Al-Harbi (2023) investigate the application of green learning in teaching social studies in general education in Saudi Arabia using mixed method approach with a sample size of 16 experts. The analysis was of both quantitative and qualitative nature. Positive views toward green learning, its capacity in spreading the environmental consciousness and helping move towards digital and sustainable education were found to be high along with some challenges that may prevent it from spreading and solutions for applying green learning successfully.

Similar to above, Al-Sayyad et al. (2023) studied the efficiency of proposed electronic program based on digital green learning in science education aiming to develop the ability to solve the problem and environmental consciousness. 35 students participated in an experiment and showed that this program enhanced their posttest learning.

9. Test Reliability

The test was first administered to a pilot sample outside the main study sample, consisting of students enrolled in the English Language course at the College of Education and Humanities, University of Tikrit. The pilot sample included (18) male and female students. Reliability analysis was conducted using two methods to ensure the instrument's consistency and stability. The first method was Cronbach's Alpha, which is one of the most commonly used measures for assessing internal consistency among scale items. The second method was the split-half technique; since the number of items for each dimension was uneven (odd-numbered items), the correlation coefficient was adjusted using the Spearman–Brown correction formula to obtain an accurate reliability estimate.

Table (1): Reliability Coefficients for Green Learning and Learning Motivation

Dimension	Number of Items	Split-half Reliability	Cronbach's Alpha
Achievement test	12	0.88	0.77
Intrinsic motivation	4	0.85	0.78
Extrinsic motivation	4	0.86	0.84
Self-efficacy	4	0.93	0.85
Learning value	4	0.90	0.85
Persistence & achievement orientation	4	0.85	0.83
Total learning motivation	20	0.97	0.93

The results in Table (1) indicate that the reliability coefficient for the achievement test reached (0.77), while the reliability coefficients for all dimensions of learning motivation exceeded (0.70). Moreover, the overall reliability of the learning motivation scale, which consists of (20) items, reached (0.93), which is higher than the acceptable threshold of 0.70. In addition, all split-half reliability values across the dimensions exceeded (0.70), while the total split-half reliability reached (0.97), which also exceeds the acceptable level. These results confirm that the research instrument has an acceptable and high level of reliability.

10. The instructional unit consisted of:

This instructional unit was a selection of related topics, organized according to the view of motivation in English language learning in order to improve the students' learning achievement and motivation toward learning English Language Department subject. The unit contained a theoretical review related to the concept of motivation, its types, and its basic theories, Maslow's theory, Bandura's theory, and cognitive theory. In addition to that it discussed the learning motivation and its relation with learning achievement in the English Language courses subject. The instructional unit subject was divided into six lectures through four weeks and was taught according to the Green Learning

Strategy, that it emphasizes and notices students' individual differences in learning abilities, learning style and their interest, also encourages and supports students' active engagement in English language learning activities.

Also, the construction of the unit involved the determination of general and specific objectives, selection of instructional aids which were digital presentation, educational videos, and case studies associated with teaching English, apart from using multiple kinds of assessment which took the form of a learning achievement test and learning motivation scale. The unit learning activities were designed in a way of freedom and flexibility in providing tasks and learning resources that can be chosen according to their learning abilities and interests; this contributes in raising students' sense of self-efficacy and learning motivation toward learning English language courses subject.

11. Equivalence Test Between the Control and Experimental Groups

The equivalence of the two groups, each consisting of (18) male and female students, was examined through the pre-test application of both instruments to the two groups before the implementation of the green learning strategy. This was also done to compare their performance in the pre-test with their performance in the post-test. Table (2) presents the results.

Table (2): Differences in Mean Scores of Students in the Control and Experimental Groups in the Pre-Test (N=18)

Skill / Dimension	Group	Mean	Std. Deviation	t-value	p-value	Significance
Achievement Test	Control	7.89	3.96	-1.25	0.22	Not significant
	Experimental	9.56	4.06			
Intrinsic Motivation	Control	10.39	2.20	-0.38	0.71	Not significant
	Experimental	10.67	2.20			
Extrinsic Motivation	Control	10.28	2.32	-0.58	0.57	Not significant
	Experimental	10.72	2.27			
Self-efficacy	Control	10.61	2.85	-0.71	0.48	Not significant
	Experimental	11.28	2.80			
Learning Value	Control	10.67	2.87	-0.24	0.81	Not significant
	Experimental	10.89	2.76			
Persistence & Achievement Orientation	Control	11.22	2.86	-0.36	0.73	Not significant
	Experimental	11.56	2.77			
Total Learning Motivation	Control	53.17	10.41	-0.57	0.57	Not significant
	Experimental	55.11	9.93			

The results shown in Table (2) indicate that there are no statistically significant differences between the mean scores of

students in the control group and the experimental group in the achievement test, learning motivation, and its five dimensions in the pre-test. All p-values were greater than the significance level of 0.05, indicating that the differences are not statistically significant. This confirms that the two groups were equivalent in terms of academic achievement and learning motivation, including all its dimensions, as well as the overall motivation score prior to the implementation of the green learning strategy.

12. Implementation of the Strategy

The experimental group was taught using the green learning strategy at a rate of two lectures per week, in order to match the number of lectures in the control group and the requirements of the course content. The only difference between the two groups was the teaching strategy used. The experimental group was taught using the green learning strategy, and the implementation period lasted for six weeks.

Post-Test Administration

After completing the implementation of the strategy, which lasted for four weeks, the post-tests were administered to both the control and experimental groups at the beginning of the seventh week.

Test Scoring and Statistical Analysis

After collecting and recording the test scores for both groups, the data were entered into statistical forms for analysis. The Statistical Package for the Social Sciences (SPSS, Version 27) was used for data analysis. An independent samples t-test was conducted to determine the differences between the mean scores of students in the English Language course (second year) in the control and experimental groups in the post-test. The results are presented in the following section.

13. Results of the Study

In this section, the study hypotheses are tested in order to determine whether they are accepted or rejected, as presented below:

First Hypothesis

There are statistically significant differences between the mean ranks of the experimental and control groups in the post-test of the achievement test.

The results related to the first hypothesis are presented in Table (3) as follows:

Table (3): Differences in Students' Scores Between Control and Experimental Groups in the Post Achievement Test (n = 36)

Statistical Significance	Sig. Value	t-value	Standard Deviation	Mean	Group	Skill
Significant	0.018	-2.48	3.70	7.78	Control	Achievement Test
			4.48	11.17	Experimental	

The results in Table (3) show statistically significant differences between students' mean scores in the achievement test in the English Language course between the control and experimental groups at the 0.05 significance level. The experimental group achieved a higher mean score (11.17) compared to the control group (7.78). Therefore, the first hypothesis is accepted.

Second Hypothesis

There are statistically significant differences between the mean ranks of the experimental and control groups in the post-test of learning motivation.

The results are presented in Table (4) as follows:

Table (4): Differences in Students’ Scores Between Control and Experimental Groups in the Post Learning Motivation Scale (n = 36)

Statistical Significance	Sig. Value	t-value	Standard Deviation	Mean	Group	Skill
Significant	0.000	-10.59	10.49	56.78	Control	Learning Motivation
			2.35	83.61	Experimental	

The results indicate that the experimental group achieved a higher mean score (83.61) compared to the control group (56.78). Accordingly, the results support the acceptance of the second hypothesis, indicating statistically significant differences in learning motivation in favor of the experimental group in the post-test.

Third Hypothesis

There are statistically significant differences between the mean ranks of the experimental group in the pre-test and post-test of the achievement test.

The results are presented in Table (5) as follows:

Table (5): Differences in Students’ Scores in the Experimental Group in the Pre- and Post-Achievement Test (n = 36)

Statistical Significance	Sig. Value	t-value	Standard Deviation	Mean	Test	Skill
Not significant	0.27	-1.31	4.06	9.56	Pre-test	Achievement Test
			4.48	11.17	Post-test	

The results show that the post-test mean score (11.17) is higher than the pre-test mean score (9.56) for the experimental group;

however, the difference is not statistically significant. Therefore, the third hypothesis is rejected.

Fourth Hypothesis

There are statistically significant differences between the mean ranks of the experimental group in the pre-test and post-test of learning motivation.

The results are presented in Table (6) as follows:

Table (6): Differences in Students' Scores in the Experimental Group in the Pre- and Post-Learning Motivation Scale (n = 36)

Statistical Significance	Sig. Value	t-value	Standard Deviation	Mean	Group	Skill
Significant	0.000	-12.11	10.41	53.17	Pre-test	Learning Motivation
			2.36	83.61	Post-test	

The results indicate statistically significant differences between the pre-test and post-test scores of the experimental group in learning motivation in favor of the post-test at the 0.05 significance level. The post-test mean score (83.61) is higher than the pre-test mean score (53.17). Therefore, the fourth hypothesis is accepted.

14. Conclusions:

The study arrived at the following conclusions:

1. The results of the statistical analysis found that no statistically significant differences existed between the students in the experimental and control group in the pre-test of the achievement test and dimensions of learning motivation, and that one could conclude that there was no specific superiority of one over the other, which implies that the two groups were comparable prior to implementing the green learning strategy;
2. There were statistically significant differences between the mean score in the achievement test and dimensions of learning motivation between the experimental and control group for the benefit of the experimental group, which implies that there was a distinct superiority of the experimental group over the control group; and
3. There were statistically significant differences between the pre and post-test scores of the experimental group for the benefit of the post-test for the dimensions of learning motivation, which implies that teaching English Language courses to the experimental group students by the use of the green learning strategy was effective in the case of the experimental group students when compared to the pre-test.

15. Recommendations

According to the results of this study the researcher recommended:

- 1- Emphasize teachers in English Language Department of the College of Education to use the green learning strategy which it resulted from this study in teaching courses especially in English Language teaching in college level.
- 2- Conduct workshops and training courses to develop the ability of the faculty on the effective usage of the green learning strategy.
- 3- Developing teachers in the green learning strategy in order to increase the student's motivation to learning English language.
- 4- Provide enough information to the curriculum planners about the benefits and importance of the green learning strategy to be taken in consideration when designing an educational curriculum.

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