The Impact of Self-Directed Learning on Developing English Speaking Skills of EFL University of Jordan Students

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Abstract:

This study investigates the impact of a self-directed learning strategy on developing English speaking skills among EFL students at the University of Jordan. A quasi-experimental design is used in the study. The study sample consisting of 40 students of English 100 is randomly divided into two groups, as 20 students in the control group are taught in the traditional method, and 20 students in the experimental group are taught using the SDL method for four months. The same speaking assessment is given to two groups to collect the data and measure their speaking skills using observation cards designed by the researcher. Results of One-way Analysis of Covariance (One-way ANCOVA) revealed a statistically significant effect of the self-directed learning strategy in developing the speaking skills of EFL students at the University of Jordan. In light of the results of the study, the instructors are recommended paying attention to SDL models to help students use the English language inside and outside classrooms. The results have also been discussed and concluded with recommendations.

Keywords: EFL students, English Speaking, Fluency, Self-Directed Learning.

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أثر التعلم الذاتي الموجه على تنمية مهارات التحدث باللغة الإنجليزية لدى طلبة اللغة الإنجليزية كلغة أجنبية في الجامعة الأردنية

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ملخص:

تهدف هذه الدراسة إلى دراسة تأثير استراتيجية التعلم الذاتي الموجه في تطوير مهارات التحدث باللغة الإنجليزية بين طلبة اللغة الإنجليزية كلغة أجنبية في الجامعة الأردنية. تم استخدام تصميم شبه تجريبي في الدراسة. تكونت عينة الدراسة من 40 طالبًا في مادة مهارات اللغة الإنجليزية 100 تم تقسيمهم عشوائيًا إلى مجموعتين، 20 طالبًا في المجموعة الضابطة دُرّسوا بالطريقة التقليدية، و20 طالبًا في المجموعة التجريبية دُرّسوا بطريقة التعلم الذاتي الموجه لمدة أربعة أشهر. تم إجراء تقييم التحدث ذاته للمجموعتين وتم جمع البيانات وقياس مهارات التحدث باستخدام بطاقات الملاحظة التي صممها الباحث. أظهرت نتائج تحليل التباين الأحادي المصاحب وجود أثر دال إحصائيًا لاستراتيجية التعلم الذاتي الموجه في تطوير مهارات التحدث طلبة اللغة الإنجليزية كلغة أجنبية في الجامعة الأردنية. وفي ضوء نتائج الدراسة، كما تمت مناقشة النتائج واختتمت بالتوصيات.

الكلمات المفتاحية: التعلم الذاتي الموجه، الطلاقة، طلاب اللغة الإنجليزية كلغة أجنبية، مهارات التحدث.

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1. Introduction

Learning the English language has an essential role for learners. It enables learners to communicate in a second language, which leads to an improved and better life. Learning English consists of basic skills which are listening, reading, speaking, and writing. Rao (2019) indicated that of all four key language skills, speaking is ranked the first skill in learning a second or foreign language. It has an important part in everyday interaction as a person's first impression is based on his/her ability to speak fluently and comprehensively. English speaking is ignored in Jordanian EFL preparation classrooms in public and private universities. EFL learners may have difficulties speaking the fluent English language. As students find difficulties in speaking, teachers are held responsible for preparing and enabling the students to speak in English in real-life situations and contexts outside the classroom. Even though the importance of teaching speaking skills is continually on the rise, teaching speaking has been undervalued and overlooked. In other words, English language teachers insist on teaching speaking just as a repetition of drills or memorization of dialogues and discussions. However, the world currently requires that teaching speaking should improve students' communicative skills because students can express themselves and learn how to follow the social and cultural rules appropriate to each communicative circumstance.

Various researchers assert that speaking is one of the significant and basic language skills. It is the heart of learning any language. As put by Kurniawan (as cited in Wayan, 2017), the accomplishment of English learners is seen from the ability of the English learner to use English to communicate effectively. Likewise, speaking is an important skill involving both productive and receptive skills that enable learners to communicate with others effectively (Wayan, 2017). Nevertheless, several students still have problems mastering their speaking skills. Most universities and high secondary students cannot speak English even in simple sentences because of several reasons such as problems in grammar, pronunciation, and vocabulary, alongside the traditional moods of teaching (Fauzan, (2016).

In Jordan, many students in schools and universities are afraid of facing academic problems with English speaking. Many of the academic problems are due to a lack of speaking skills in the target language, as the latter's decline among students now becomes a danger to students. In other words, it is a key subject matter as it is the educational path for the educated individual and the speaking performance results are below the level of satisfaction and reassurance related to the philosophy used in the Jordanian educational system

(Al-Eiadeh, Al-Sobh, Al-Zoubi, & Al-Khasawneh, 2016). New methodologies in teaching speaking skills are one of the most important poles of a successful English classroom interaction process.

Knowles is the main educator behind the theory of andragogy or adult learning. In 1980, Knowles made four assumptions about the traits of adult learners or andragogy quite different from those of child learners that follow pedagogy. In 1984, Knowles added the fifth assumption. The first one is self-concept which is when a person grows and becomes mature, his self-concept shifts from being a dependent personality to a self-directed person. The second assumption is the adult learner's experience, which is when a person matures and becomes older; his store of experience accumulates and becomes increasing and constitutes a resource and source for his future learning. The third assumption is the willingness to learn which is when a person grows and matures; his willingness to learn becomes directed more towards the developmental tasks of his social roles. The fourth assumption is the orientation to learning which is when a person matures; his perspective of time changes from one of the delayed applications of knowledge to the immediate application, and thus his thinking shifts from focusing on the topic to focusing on the problem. The last assumption is the motivation to learn which is intrinsic as a person matures (Knowles, 1984).

As such, Knowles has proposed that learners become increasingly self-directed as they mature. Self-directed learning (SDL) can be considered as learning by oneself (auto-formation), as opposed to learning through the actions of others or the so-called hetero-formation (Carre, 2011). The structure of the paper is, however, divided into ten main sections.

2. The Problem Statement

Given the important role of speaking skills, it has been observed that the majority of English language students in Jordanian educational institutions face mistakes and problems in speaking skills and unwillingness to engage in discussion due to their fear of making mistakes and their weaknesses in English speaking abilities in general (Fauzan, (2016). Another problem is that if they speak, they produce very short sentences in a short period and very amount of pauses during their speech. Another significant point is that very few empirical studies have explored the pedagogical efficacy of self-learning strategies for improving speaking fluency. The effects of SDL have been studied in various disciplines. "Self-learning is a teaching and learning theory proposed in education in general and not specific to language education" (Cafarrella & Merriam, 1991; Park, P, 2007). In the domain of language teaching, several research papers have

generally addressed the effects of self-directed learning on students' writing and reading achievement performance. Accordingly, there is scarce research work on speaking skills addressing subjective strategies for teaching in Jordan.

3. Questions of the Research Paper

In light of the problem statement, the following major questions are formulated.

1. Are there any significant differences at (α= .05) in EFL university students' mean scores of the total words produced post-test due to the method of instruction (Self-directed learning strategy vs. conventional instruction)?

2. Are there any significant differences at (α= .05) in EFL university students' mean scores of the speech rate fluency post-test due to the method of instruction (Self-directed learning strategy vs. conventional instruction)?

3. Are there any significant differences at (α= .05) in EFL university students' mean scores of the total speech time post-test due to the method of instruction (Self-directed learning strategy vs. conventional instruction)?

4. Are there any significant differences at (α= .05) in EFL university students' mean scores of the number of pauses (Breakdown Fluency) post-test due to the method of instruction (Self-directed learning strategy vs. conventional instruction)?

4. Objectives of the Research Paper

The study aims to help EFL students to improve their oral communication proficiency out of class by exploring the influence of self-directed learning on the University of Jordan students of English and developing independent learners to be autonomous learners.

5. The Significance of the Research Paper

The significance of the study lies in helping EFL students to improve their oral communication proficiency in and out-of-classroom by exploring the influence of self-directed learning on the University of Jordan EFL students to improve their speaking skills. This research is also important, as it makes the course materials relevant to the real-life situation to motivate students to speak English in class without fear of having mistaken. Besides, it is significant for it helps to develop independent learners to become autonomous learners and design the learner to attain the mastery of the learning process.

Moreover, this study provides teachers as well as curriculum designers and stakeholders with a fundamental background about the advantages of using self-directed learning to encourage fluency in learners' speaking skills. On the other hand, the insufficient number of research papers in the domain of self-directed learning and its effects on fluency in the Arab world in general and in Jordan, in particular, is another significant motivation to conduct this study.

6. Limitations of the Research Paper

The findings of this study can be generalized in light of the following limitations:

1. The temporal limitations: The study is conducted in the second semester of the academic year 2021/2022.
2. The spatial and human limitations: The study is conducted at the University of Jordan and is limited to a study sample of bachelor's degree students of English Communication Skills Course 100.
3. Objective limitations: The study relies on the use of tools prepared by the researcher to study the impact of SDL on developing speaking fluency among students of the English Communication Skills Course 100.
4. The results of the study are determined by the degree of validity and reliability of the study tools and their psychometric characteristics so that the results of the study are generalized to the population from which a study sample was drawn.

7. Literature Review

Given the nature of this research, this research adopts the definition of self-directed learning which is defined "as a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating their learning goals, identifying human and material resources for learning, selecting, and implementing appropriate learning strategies, and evaluating learning outcomes" (Knowles, 1975, p. 18). As mentioned previously, most research papers regarding self-directed learning have been conducted on reading or writing ability. Also, other and few research papers have discussed the oral skills ability or one dimension of speaking efficiency skills. Hence, the current research investigates the impact of self-directed learning on fluency as a dimension of language speaking efficiency. The current work also examines whether the results of this research agree or disagree with other research papers' results taking into consideration the problem of this research and the purpose of the study.

Learning can be more effective when it starts and directs itself to raise individuals who can develop independence in learning, especially in the university education stage (Grow, G. O. (1991). Learners are no longer seen as recipients of information, but more than that, they are active and partners in reorganizing the material being taught, rebuilding the knowledge in it, and linking it with previous knowledge to form more comprehensive knowledge structures. Numerous studies have tackled self-directed learning and employed it in their research to study improving the quality of education in various areas. Knowles (1975) also pointed out that self-directed learning refers to an educational process in which learners have the primary responsibility for their own educational experiences. It is considered a learning practice in which an individual takes the initiative in identifying learning needs, preparing goals, determining resources, and evaluating outcomes.

In the same context, Suleiman (2019) conducted a study to help EFL students to improve their oral communication proficiency out of class. Video movies are selected in self-directed learning to improve students' oral communication proficiency. Depending on that, six first-year students at the school of English language and literature from Ajloun University in Jordan are randomly selected and equally divided into two groups, experimental and control. The researcher used pre-and post-test, i.e. the self-assessment language test for both groups. Furthermore, the researcher interviewed twice and filled in the study notes during the research, eight self-directed movies with their instructions are given to students. The results of the research indicated that movies could help improve the students' oral communication proficiency with higher post-test scores than pre-test scores.

Another study is conducted by Harchegani, (2013) to define the efficacy of SDL in teaching speaking to Iranian EFL students. The researcher has selected the participants using a selective clustering way, as 30 high school students enrolled in a language institute for conversation classes at the pre-intermediate level have participated in the study. The researcher has divided the learners into control and experimental group with 15 students for each group. The results of the pre and post-test after analyzing and comparing showed that the experimental group is better than the control group in speaking skill development and this is a piece of evidence of the effectiveness of the SDL model in teaching speaking skills to Iranian EFL learners.

On the other hand, Majidi, (2016) discussed the method of self-directed

learning (SDL) and its effect on the development of different language skills, especially the skill of accuracy in speaking English. To achieve the aim of the study, the researcher selected a sample of sixty Iranian students of upper intermediate level. In detail, the students received the remedial plan after they performed a pre-test for speaking accuracy and are treated for 8 weeks of instruction. After that, the students received a post-test for speaking accuracy as well as a self-guided readiness scale questionnaire. The results revealed that the participants in the experimental group outperformed the participants in the control group.

In the same vein, the results of the study examined by Mahmud, (2017) emphasized that students of non- English department in Iain Sultan Amal Gorontalo have improved their English-speaking skills by using self-directed learning strategies through the use of entertaining surfing and speaking. The results showed that students have the essential elements to be self-directed learners to speak English. They communicated with their classmates in English, paid attention to the English language, controlled their learning in raising watching movies in English and doing their activities with great execution and high inspiration to be awesome, and achieved more self-inspiration.

Likewise, Yarahmadzehi and Bazleh (2012) conducted a study at Iran University and applied it to two groups in which an experimental group was purposefully educated using SDL strategies, depending on Bett's independent learner model (Betts & Kercher, 1999, quoted in Yarahmadzehi & Bazleh, 2012), in equivalent with their normal English kids, while the control group was educated only English. As a result, the post-test showed a considerable development in English language skills, as well as an important improvement in SDL readiness as noted by the Self-Directed Learning Readiness Scale (SDLRS). The results of their study showed that although the research was applied to a small sample, it was evident that teaching SDL strategies and reinforcing learner autonomy would be a valuable chance for the Iranian teaching process.

Apart from this, Gan (2004) published an article to address Self-Learning (SDL) attitudes and strategies that may be characteristic of EFL students in China. In this research, a tool was developed to measure SDL Chinese students' attitudes and strategies in EFL, and the results showed that SDL strategies appear to be related to language dexterity. This confirmed that students' attitudes and strategies in self-directed language learning in SDL were determined by the limitations of specific teaching and learning contexts.

As well, Ghada (2017) conducted a study to examine the impact of self-directed learning in teaching speaking skills to Iraqi EFL students. She used Grow's SDL model to build the learner to be an independent learner. To fulfill the purpose of the study, 76 students from the Department of English Language at Al-Mustansiriyah University were distributed into 39 students as an experimental group and 37 students as a control group. The researcher selected a quasi-pretest - posttest nonequivalent. The results show that there are statistically significant differences between the two groups in their mean score in favor of the experimental group taught by the SDL model.

In addition, Alaon (2021) aimed in a study in which 16 undergraduate students were selected from the English Education to know the benefits of self-directed learning (SDL) to enhance their English-speaking skills of the students. The focus groups were used and the trust and credit model of Lincoln and Guba (2003) was applied in this research. The analysis of the collected information showed four benefits of speaking skills, namely: promoting independent learning, enhancing language proficiency, learning through the Internet, and orientation towards reading. The study showed that students who use self-directed learning need supervision and guidance from teachers to gain the benefits of this method of learning and that despite the discussion of the positive effects of self-directed learning in the research results, it may be misleading to give students complete freedom in their learning.

On the other hand, Barragán (2013) aimed to determine the impact of self-directed learning and cooperative speaking tasks as a means of enhancing the oral production fluency of eighth-grade students in a public school in Bogotá. The researcher designed self-directed speaking tasks and teaching activities aimed at providing opportunities to teach fluency in speaking through independent and collaborative learning with participants. Using pre and post-test to measure students' fluency based on the number of produced words and number of hesitations, it was evident that the words produced consistently increased while the number of hesitations decreased quite significantly. In conclusion, data collected supported the fact that learners were able to improve their oral fluency after carrying out the suggested tasks of speech rate & hesitation. The results of the research showed better confidence in the speakers who consider themselves fluent speakers because their fluency was developed due to increased learner independence, continual collaboration, and team support.

Another research by Wang (2012) presented a case study of a group of Chinese ESL learners in China studying English using self-directed learning and immersing regularly and rigorously in English television dramas. A self-directed instructional curriculum has been developed and discussed, as five participants participated in the research. The researcher used the interviews as an instrument to investigate the results which mark an effective and economical way for ESL learners to improve linguistic competence, sociolinguistics, and pragmatics outside the language class.

In the same vein, the current work concentrates on investigating the impact of self-directed learning on language-speaking efficiency in fluency to fill the gap in the related literature at the Arab level and the world level as well. The current work also examines whether the results of this research agree or disagree with other research papers' results taking into consideration the problem of this research and the purpose of the study.

8. Method and Procedures

To achieve the objectives of the study, the study was conducted using the quantitative methodology. The study sample participants are in the same education levels, as all students registered a prerequisite for this subject of 99 and have not obtained the mark exempting them from course 100. The study population consisted of undergraduate students at the University of Jordan who study the English 100 curriculum at the Language Center for the second semester (2021-2022).

A random sample of two groups of 40 students divided into two groups: a control group and an experimental group participated in this study with the age range of 19-21. The study depended on a two-group pretest-posttest design as a type of quasi-experimental approach, which measured the control group two times: one before teaching them speaking skills using the traditional method and one after teaching. The researcher who is the same instructor for both groups measured the experimental group two times: once before and once after exposing treatment by using the learning SDL-based program. This study was carried out at the Department of English language/ Language Center at the University of Jordan, where the related data was collected.

For the present study and to identify the impact of SDL on developing fluency skills, an oral speaking assessment has prepared by the researchers after constructing an observation card holding different criteria to measure fluency in speaking skills. Thus, the researchers relied on the observation cards to assess students' speaking by filling the observation card as an assessment tool for measuring language fluency skills pre and post-test in a

quantitative approach. After a deep reading of the previous literature, it was found that most studies depended on the speech rate as a measure of fluency in any language. As cited in (Costa, (2016).

Several studies such as those (Towell et al. 1996; Freed 1995; Riggenbach, 1991) pointed out that as L2 fluency raises; the speech rate rises as well. Thus, to achieve the objective of the study which is to identify the effect of SDL on speaking fluency; the researcher adopted measuring speech rate of utterance. The researcher of this study depended on different studies used by different researchers to measure (speed & breakdown fluency) such as (Tawakoni & Skehan, 2005; Taki Guchi, 2003). The collected data was measured by calculating speech rate and pause frequencies. Cross (2005) pointed out that speech rate (SR) can be measured by calculating words per minute (WPM) inclusively or exclusively. An inclusive rate reflects the rate of communication that includes all dysfluencies, pauses, hesitation, and repetition, which occur on ongoing utterances. On the other hand, the exclusive rate is calculated by deleting all types of dysfluencies such as pauses and hesitation. In the current research, the researcher used the inclusive rate in measuring speech rate by dividing the total words produced (TWP) by the total speaking time (TST) counted in seconds including all disfluent parts. Later on, the researcher multiplied the result by 60 to convert the time to words per minute in the pre and post-test for two groups. The researchers recorded the students' sample speech to analyze them manually to check the frequencies of speaking criteria.

In the current research, the researchers used the total number of pauses in the speech sample (NP) used in different previous research (Tavakoli & Skehan, 2005; Foster & Skehan, 1996; Rossiter, 2009; Mehnert, 1998). To put it in simple English, all speakers need to pause to breathe or to gain speech conceptualization, but in the case of this research, the researcher considered pauses the frequent pausing which indicates a symbol of speaking disturbance, considering these pauses longer than two seconds.

To check the validity of the fluency skills Scale (observation cards), it is presented to a group of validators with specialists in the domains of English Linguistics, education, and curricula teaching, measurement, and evaluation to express their opinion on it in terms of wording. The language of the paragraphs, their clarity, their relevance to the dimensions of fluency skills, and the fairness of the scale will be according to the consensus of the validators. To ensure the reliability of the observation card, it was applied on a pilot study of 20 students excluded later from the study sample. The

test-retest method with two weeks between them was used. Results revealed that the test re-test reliability coefficient was 0.82.

The research included the first five-unit topics from the English course (100) curriculum. The study began by obtaining the consent of both participants and the university administration. The intervention lasted for four months. Before the treatment, participants were provided with explanations of instructions. The researchers applied the observation card to the students to assess their speaking skills before applying the SDL method in teaching speaking. In the oral speaking assessment, students were asked to talk about specific topics for five minutes' maximum the researcher handed the topics of the oral assessment to students 20 minutes before the exam. Then, the instructor used the SDL method by providing students with a speaking negotiated contract adapted from (Knowles, 1975) to let students determine their goals, learning resources, and needs in speaking skills. The instructor gave students the plan of speaking course after modifying students' goals and resources. During the teaching period, the instructor played the role of facilitator more than the provider of information. After the end of the treatment period, the participants took the speaking posttest (the conversations of pretests and posttests were recorded for analysis) by using the observation cards. To answer the research questions, the one-way analysis of covariance (One-way ANCOVA) was performed.

9. Results and Discussion
Results Pertinent to the First Research Question

Are there any significant differences at (α= .05) in EFL university students' mean scores of the total words produced post-test due to the method of instruction (Self-directed learning application vs. conventional instruction)?

To answer this question, the means and standard deviation of the pre and post-test scores in the total words produced for the two groups were extracted. Table 1 illustrates the results:

Table 1: Means and Standard Deviations of the Two Groups in the Total Words Produced Domain in the Pre-test and Post-test Per the Method of Instruction

Dependent variable	Group	Pre-test		Post-test	
		Mean	Std.	Mean	Std.
Total words produced	Control	223.55	41.88	223.40	41.65
	Experimental	223.20	53.44	315.85	115.18
	Total	223.38	47.39	269.63	97.46

Table 1 reveals that the experimental group's mean of the total words

produced post-test scores is greater than the control group's mean of the total words produced post-test. The mean score of students in the experimental group was (315.85) and (223.40) for the control group.

A one-way analysis of covariance (ANCOVA) was used to investigate the statistically significant impact of the instruction method on the total words produced in post-test scores after controlling for the effect of pre-test scores. Table 2 illustrates the results:

Table 2: Results of One-way ANCOVA Analysis for the Effect of Instruction Method in the total words produced post-test scores after Controlling the Effect of Pre-test Scores

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Pre-test	178861.916	1	178861.916	62.347	.000	.628
Instruction method	86396.115	1	86396.115	30.116	.000	.449
Error	106145.434	37	2868.796			
Total	3278383.000	40				
Corrected Total	370477.375	39				

In Table 2, it is revealed that the mean score of the experimental group in the total words produced is significantly higher than the mean score of the control group. The partial eta squared values of 0.449 indicate that the instruction method explained 44.9% of the variance in the total words produced. Thus, it can be stated that using the self-directed learning application enhanced the total words produced.

Additionally, adjusted and unadjusted means of the total words produced by the experimental and control groups were extracted. Table 3 illustrates the means, standard errors, and standard deviations of the experimental and control groups in the total words produced before and after controlling the pre-test scores.

Table 3: Adjusted and Unadjusted Group Means and Variability of the Total Words Produced Using Pre-Test Scores as a Covariate per Instructional Method.

Group	Adjusted Means		Unadjusted Means	
	Mean	S.E	Mean	STD
Control	223.15	11.977	223.40	41.65
Experimental	316.10	11.977	315.85	115.18

As displayed in Table 3, there is virtually a difference between the experimental and control groups in the total words produced after the differences in the pre-test scores were controlled. Therefore, it can be concluded that the self-directed learning application enhanced the total words produced. These results could be attributed to providing them with

various vocabs related to the topics and using different resources they like to back to them if needed by using the SDL method.

In addition, the expansion in the mean number of words produced in the post-test confirmed that the self-directed learning method has a positive effect on increasing the score's mean number of speaking words produced by students, and this indicates the effectiveness of the teaching program in SDL method to have a great impact in increasing the number of words used by the students. This proves the impact of the SDL model on developing fluency among EFL students at the University of Jordan. This result is consistent with several previous studies such as Barragán (2013), showing that the number of words produced by ten students after applying the SDL model rose from 349 for the first intervention. However, the students could speak 756 words at the end intervention, which means that their fluency was improved. Other studies have consistent positive results of SDL on speaking skills such as (Suleiman, 2019; Harchegani, 2013; Ghada 2017; Alaon, 2021), which indicated the same result that students' speaking fluency improved after applying the SDL method.

Results Pertinent to the Second Research Question

Are there any significant differences at (α= .05) in EFL university students' mean scores of the speech rate post-test due to the method of instruction (Self-directed learning application vs. conventional instruction)?

To answer this question, the means and standard deviation of the pre and post-test scores in the speech rate for the two groups were extracted. Table 4 illustrates the results:

Table 4: Means and Standard Deviations of the Two Groups in the Speech Rate in the Pre-test and Post-test Per the Method of Instruction

Dependent variable	Group	Pre-test		Post-test	
		Mean	Std.	Mean	Std.
Speech rate fluency	Control	100.90	19.30	99.85	16.44
	Experimental	107.40	22.18	116.65	25.00
	Total	104.15	20.79	108.25	22.55

Table 4 reveals that the experimental group's mean speech rate of the post-test scores is greater than the control group's mean speech rate post-test. The mean score of students in the experimental group was (116.65) and (99.85) for the control group.

A one-way analysis of covariance (ANCOVA) was used to investigate the statistically significant impact of the instruction method on the speech rate post-test scores after controlling for the effect of the pre-test scores. Table 5 illustrates the results:

Table 5: Results of One-way ANCOVA Analysis for the Effect of Instruction Method in the Speech Rate Post-test Scores after Controlling the Effect of Pre-test Scores

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Pre-test	9337.783	1	9337.783	45.014	.000	.549
Instruction method	1380.566	1	1380.566	6.655	.014	.152
Error	7675.317	37	207.441			
Total	488558.000	40				
Corrected Total	19835.500	39				

In Table 5, it is revealed that the mean score of the experimental group in the speech rate is significantly higher than the mean score of the control group. The partial eta squared values of 0.152 indicate that the instruction method explained 15.2% of the variance in the speech rate. Thus, it can be stated that using the Self-directed learning application enhanced the speech rate.

Additionally, adjusted and unadjusted means of the speech rate of the experimental and control groups were extracted. Table 6 illustrates the means, standard errors, and standard deviations of the experimental and control groups in the speech rate before and after controlling the pre-test scores.

Table 6: Adjusted and Unadjusted Group Means and Variability of the Speech Rate Using Pre-Test Scores as a Covariate per Instructional Method.

Group	Adjusted Means		Unadjusted Means	
	Mean	S.E	Mean	STD
Control	102.30	3.241	99.85	16.44
Experimental	114.20	3.241	116.65	25.00

As displayed in Table 6, there is virtually a difference between the experimental and control groups in the speech rate after the differences in the pre-test scores were controlled. Therefore, it can be concluded that the Self-directed learning application enhanced the speech rate.

The reason for developing speaking fluency in light of the increasing number of words produced per minute is due to the effectiveness of self-learning resulting from the students' commitment to achieving their goals of speaking by using the SDL method. It is also because of the instructor's role as facilitator in directing the students to refer to exact resources and vocabulary that got stuck in their minds through perseverance in self-study and to provide them with fluency strategies and how they should acquire SDL.

This result is in line with the research conducted by (Suleiman, 2019;

Harchegani, 2013; Ghada, 2017; Alaon, 2021; Barragán, 2013), indicating that students' fluency in speaking has improved after applying SDL methods. Also, subsequent testing demonstrated the students' ability not only to increase the total words produced per minute but also to improve total speaking time. Here, the students' results showed more active participants had better oral production while being supported by intense SDL activity in the classroom. The data collected in the post-test appears to be more consistent with the learners' perception of improving their ability to communicate in English orally after working in groups and pair work as well.

Results Pertinent to the Third Research Question

Are there any significant differences at (α= .05) in EFL university students' mean scores of the total speech time post-test due to the method of instruction (Self-directed learning application vs. conventional instruction)?

To answer this question, the means and standard deviation of the pre and post-test scores in the total speech time for the two groups were extracted. Table 7 illustrates the results:

Table 7: Means and Standard Deviations of the Two Groups in the Total Speech Time in the Pre-test and Post-test Per the Method of Instruction

Dependent variable	Group	Pre-test		Post-test	
		Mean	Std.	Mean	Std.
Total Speech Time	Control	136.25	27.48	136.75	27.48
	Experimental	127.65	30.08	162.95	45.45
	Total	131.95	28.77	149.85	39.37

Table 7 reveals that the experimental group's mean of the total speech time post-test scores is greater than the control group's mean of the total speech time post-test. The mean score of students in the experimental group was (162.95) and (136.75) for the control group.

A one-way analysis of covariance (ANCOVA) was used to investigate the statistically significant impact of the instruction method on the total speech time post-test scores after controlling for the effect of the pre-test scores. Table 8 illustrates the results:

Table 8: Results of One-way ANCOVA Analysis for the Effect of Instruction Method in the Total Speech Time Post-test Scores after Controlling the Effect of Pre-test Scores

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Pre-test	25383.257	1	25383.257	33.300	.000	.474
Instruction method	11238.916	1	11238.916	14.744	.000	.285

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Error	28203.443	37	762.255			
Total	958652.000	40				
Corrected Total	60451.100	39				

In Table 8, it is revealed that the mean score of the experimental group in the total speech time is significantly higher than the mean score of the control group. The partial eta squared values of 0.285 indicate that the instruction method explained 28.5% of the variance in the total speech time. Thus, it can be stated that using the Self-directed learning application enhanced the total speech time.

Additionally, adjusted and unadjusted means of the total speech time of the experimental and control groups were extracted. Table 9 illustrates the means, standard errors, and standard deviations of the experimental and control groups in the total speech time before and after controlling the pre-test scores.

Table 9: Adjusted and Unadjusted Group Means and Variability of the Total Speech Time Using Pre-Test Scores as a Covariate per Instructional Method.

Group	Adjusted Means		Unadjusted Means	
	Mean	S.E	Mean	STD
Control	223.15	11.977	136.75	27.48
Experimental	316.10	11.977	162.95	45.45

As displayed in Table 9, there is virtually a difference between the experimental and control groups in the total speech time after the differences in the pre-test scores were controlled. Therefore, it can be concluded that the Self-directed learning application enhanced the total speech time.

These results could be attributed to SDL strategies and the support activities to let students speak longer because they were able to use and apply the new vocabulary and the grammar structures previously studied and practiced in their recourses. Specifically, this finding is in line with Barragán (2013) concerning the fifth intervention supported by SDL strategy which has made students' ability to expand their oral production more than their peers who are not supported by SDL strategy in learning speaking. Furthermore, the researchers attribute the reason for increasing the speaking time to the fact that the students enjoyed speaking more than ever before. In detail, this is due to the positive and cooperative environment and responsibility, inspiring students to achieve their goals set by them using their resources in the SDL strategy.

Results Pertinent to the Fourth Research Question

Are there any significant differences at (α= .05) in EFL university students' mean scores of the number of pauses (Breakdown Fluency) post-test due to the method of instruction (Self-directed learning application vs. conventional instruction)?

To answer this question, the means and standard deviation of the pre and post-test scores in the number of pauses (Breakdown Fluency) for the two groups were extracted. Table 10 illustrates the results:

Table 10: Means and Standard Deviations of Number of Pauses in the Pre-test and Post-test Per the Method of Instruction

Dependent variable	Group	Pre-test		Post-test	
		Mean	Std.	Mean	Std.
Breakdown Fluency	Control	1.80	1.01	1.95	1.05
	Experimental	1.90	1.02	.65	.67
	Total	1.80	1.01	1.30	1.09

Table 10 reveals that the experimental group's mean of breakdown fluency post-test scores (0.65) is lower than the control group's mean of breakdown fluency post-test scores (1.95). This suggests that there is a disparity in post-performance between the two groups, with the control group outperforming the other.

Furthermore, a one-way analysis of covariance (ANCOVA) was used to investigate the statistically significant impact of the instruction method on breakdown fluency after controlling for the effect of breakdown fluency pre-test scores. Table 11 illustrates the results:

Table 11: Results of One-way ANCOVA Analysis for the Effect of Instruction Method in the Breakdown Fluency after Controlling the Effect of Pre-test Scores

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Pre-test	.954	1	.954	1.237	.273	.032
Instruction method	17.265	1	17.265	22.378	.000	.377
Error	28.546	37	.772			
Total	114.000	40				
Corrected Total	46.400	39				

In Table 11, it is revealed that the mean score of the experimental group in the breakdown fluency is significantly higher than the mean score of the control group. The partial eta squared values of 0.377 indicate that the instructional method explained 37.3% of the variance in breakdown fluency. Thus, it can be stated that using the Self-directed learning application decreased the level of students' breakdown fluency.

Additionally, adjusted and unadjusted means of the breakdown fluency of the experimental and control groups were extracted. Table 12 illustrates the means, standard errors, and standard deviations of the experimental and control groups in the breakdown fluency before and after controlling the pre-test scores.

Table 12: Adjusted and Unadjusted Group Means and Variability of the Breakdown Fluency Using Pre-Test Scores as a Covariate per Instructional Method.

Group	Adjusted Means		Unadjusted Means	
	Mean	S.E	Mean	STD
Control	458.27	17.132	460.00	63.23
Experimental	597.19	17.132	595.45	165.70

As displayed in Table 12, there is virtually a difference between the experimental and control groups in the breakdown fluency after the differences in the pre-test scores were controlled. Therefore, it can be concluded that the Self-directed learning application decreased the level of breakdown fluency. In the same vein, these outcomes may be ascribed to SDL tactics that students learned in basic speaking skills required to improve speaking fluency after realizing speaking abilities that encouraged self-confidence, initiative, and tenacity to communicate with fewer pauses.

Therefore, this result answered the last question of the research that there are significant differences at (α = .05) between the mean scores of the total number of pauses (TNP) before and after applying the SDL strategy, demonstrating the effectiveness of SDL on developing speaking fluency towards EFL students. The result of this question is in line with the results of the studies conducted by Suleiman (2019; Harchegani, 2013; Ghada, 2017; Alaon 2021; Barragán, 2013), indicating that students' fluency in speaking improved after applying SDL methods.

10. Conclusion

In a nutshell, Jordanian EFL students find it hard to attain fluent English speaking. Therefore, aiming to develop Jordanian EFL students' speaking competence, this paper discusses the self-directed learning model of teaching speaking skills, as different tasks and activities are carried out using the SDL strategy in lectures.

Learners should be responsible for studying on their own regularly outside classroom times using SDL model. Given the aforesaid results, developing speaking skills formulated by increasing total words produced an increase in the total speaking time and a decrease in the pauses frequencies that prove the effectiveness of the SDL model in teaching

speaking to EFL the University of Jordan students. With that being said, this research recommends instructors pay attention to SDL models as a teaching method for mature students to engage students in learning content knowledge, enhance their responsibility, commit to learning, and help them use the English language inside and outside classrooms. In particular, faculties' administrators should also work closely to enhance students' self-learning in speaking as productive skills as an accredited teaching method.

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