

Utilizing Inquiry-based Learning to enhance Faculty of Specific Education Prospective Teachers' Speaking Fluency

Yousra Saeed Abd.El-wahab Mehrez
English Teacher

Dr. Azza Al-Marsafy

Professor of TEFL Department of
Curriculum & Instruction Faculty of
Education-Zagazig University

Dr. Nadia Lotfy

Lecturer of Curriculum & Instruction
Faculty of Specific Education-Zagazig
University



المجلة العلمية المحكمة لدراسات وبحوث التربية النوعية

المجلد التاسع - العدد الرابع - مسلسل العدد (٢٢) - أكتوبر ٢٠٢٣ م

رقم الإيداع بدار الكتب ٢٤٢٧٤ لسنة ٢٠١٦

ISSN-Print: 2356-8690 ISSN-Online: 2974-4423

موقع المجلة عبر بنك المعرفة المصري <https://jsezu.journals.ekb.eg>

JSROSE@foe.zu.edu.eg

E-mail البريد الإلكتروني للمجلة

Utilizing Inquiry-based Learning to enhance Faculty of Specific Education Prospective Teachers' Speaking Fluency

Dr. Azza Al-Marsafy

Professor of TEFL Department of Curriculum & Instruction Faculty of Education-Zagazig University

Dr. Nadia Lotfy

Lecturer of Curriculum & Instruction Faculty of Specific Education-Zagazig University

Yousra Saeed Abd.El-wahab Mehrez

English Teacher

Abstract:

The current Study aimed at investigating the effectiveness of utilizing inquiry-based learning to develop EFL Students' Speaking Fluency at the Faculty of Specific Education. The researcher used two groups (Control and Experimental) to achieve this purpose. she chose one experimental group randomly consisting of thirty from the four level university students "Mass media department" who utilized inquiry-based learning. In addition, the control group was taught by the traditional method. The researcher designed the EFL Fluency test, and the approach based on inquiry-based learning. After performing the statistical analysis, there were statistically significant differences between the experimental and the control groups' mean scores in the post-administration of the EFL Fluency test in favor of the experimental group, and statistically significant difference between the mean scores of the experimental group in the pre-and post-administrations of the EFL fluency test in favor of the post-administration. Also, there were no statistically significant difference between the mean scores of the experimental group in the post and follow up administration of the EFL fluency test. Finally, inquiry-based learning had a positive influence on enhancing fluency.

Keywords: Inquiry-based learning, Speaking Fluency

Introduction:

One of the important skills that should be owned by university students, especially in English Education Department, is speaking. According to Sharif (2012: 2), speaking is the act of delivering information or expressing someone's ideas and senses in oral language. It is crucial when it comes to teaching time for the students. The reason is they must use this skill to teach their students to deliver the material, give instructions and feedback to their students, and do some other teacher's activities in the classroom. Thus, producing speech fluently and confidently will be necessary as an EFL teacher since the teacher will be the model for the students.

Speaking seems to be an important skill to show how it can be used effectively in a conversation. According to Leong and Ahmadi (2017),

speaking as a significant skill needs an ability to carry out the information in a conversation. Similarly, Al-Roud (2016) asserts that speaking is an important skill in the language to build communication between people effectively.

Another opinion comes from Derakhshan et al (2016), saying that among the four skills (listening, reading, speaking, and writing) speaking becomes an important part in communication. In short, speaking is an essential skill that concerns more about how people use the language to encourage good communication with one to another.

Speaking is being capable of speech, expressing or exchanging thoughts through using language. "Speaking is a productive aural/oral skill, and it consists of producing systematic verbal utterances to convey meaning (Nunan, 2003, p.48).

" (Harmer, 2001) notes down that from the communicative point of view, speaking has many different aspects including two major categories – accuracy, involving the correct use of vocabulary, grammar and pronunciation practiced through controlled and guided activities; and, fluency, considered to be 'the ability to keep going when speaking spontaneously'. Bygate (1991, p.3), also emphasizes knowledge of the language, and skill in using this knowledge for effective communication. Language knowledge and skill in using it are considered two fundamental elements of effective communication.

In the earlier literature on English language teaching and learning, fluency was defined in relation to learners' linguistic skills and knowledge. Brumfit (1984, p. 57) defined fluency as "the maximally effective operation of the language system so far acquired by learners." Later, Ellis (2009, p. 475) identified fluency as "the capacity to use language in real time, to emphasize meanings, possibly drawing on more lexicalized systems.

The term fluency is connected to communication. Lennon (2000) defined fluency as "the rapid, smooth, accurate, lucid, and efficient translation of thought or communicative intention into language (p. 26)". So, fluency does not entail only speed but also social interaction. Fillmore (1979) postulated that fluency might be characterized by four different dimensions: a) talk with not many pauses in a specific range of time; b) talk with cohesion and coherence; c) adapt the speech to different contexts, and d) be creative in the language and create diverse situations.

Students misunderstand the concept of fluency because they think it is the ability to speak fast, so when they learn a language and speak rapidly, they think they are fluent in that language (Browne & Fulcher, 2017). Indeed, fluency is associated with speed, but not only this aspect

needs to be considered. It is also related to rate; hesitations; repetitions; and corrections.

Research on second language fluency has been growing lately (Ginther et al., 2010; Lennon, 2000; Luoma, 2004); consequently, techniques to measure students' oral fluency have also appeared and developed. The most common aspects of speaking fluency measured by the studies are: First, rate, the number of syllables spoken by a minute. The bigger the number of syllables, the higher the fluency (Ginther et al., 2010). Second, hesitation, relates to the number of pauses done in a determined time (Riggenbach, 1991). These pauses may be due to a lack of vocabulary, time to reformulate the sentence, or just distraction (Park, 2016). There are two types of pauses: silent pauses (Riggenbach, 1991), pauses with no articulations (Park, 2016), which their length can categorize: a) micro pause – 0.2 second of silence, b) hesitation – 0.3 to 0.4 second of silence and c) unfilled pause– 0.5 second or greater of silence (Riggenbach, 1991) and filled pause, pauses with articulations such as 'Uhm,' 'er,' and 'mm. Third, repair, repetition of the same speech to make corrections because the speaker said something that is judged inappropriate, wrong, or irrelevant (Schegloff, 2007).

Context of The Problem:

In the English as a foreign language (EFL) contexts, EFL learners have few opportunities to practice English outside of a classroom ([Samaranayake, 2016](#)). They may have books to read, CDs to listen to, and television programs to watch, but they may not always have English users with whom to practice the speaking. EFL learners' speaking fluency, therefore, needs to be the focus of attention in the EFL teaching contexts.

The term "speaking fluency" is linked to the meaning of "communication" ([Harmer, 2007](#), p. 142). For example, in a conversation, a learner can make a grammatical error, such as *Maria live in Cazenga* [live vs. lives]), but the learner can still speak the sentence with some fluency ([Crowther et al., 2015](#)). The learner can speak without searching for words, so that his or her speech is quickly understood. In fact, speaking fluency has been defined as the "automaticity and speed of speech production" ([Brand & Götz, 2011](#), p. 256). However, automaticity and speed of speech production may not always make a speech comprehensible, comprehensibility being "a measure of listeners' perceived ease or difficulty of understanding L2 speech" ([Crowther et al., 2015](#), p. 81).

However, most studies have treated fluency and accuracy as separate components. In their study, in which they assessed the effects of different tasks on speech comprehensibility, [Crowther et al.](#)

(2015) mentioned solely “segmental, word stress, rhythm, and speech rate” as examples of fluency categories (p. 80). Similarly, in assessing the correlation between speaking fluency and accuracy, [Brand and Götz \(2011\)](#) used only temporal variables of fluency such as “speech rate, length of speech runs or the number and length of filled and unfilled pauses” (p. 257).

Speaking fluency is determined by several components such as speech rate or number of filled and unfilled pauses, number of errors, and use of formulaic language ([Bøhn, 2015](#); [Gut, 2009](#); [Housen & Kuiken, 2009](#)). A broader definition of speaking fluency, therefore, is needed in exploratory studies. That is, speaking fluency should be more broadly defined as the learners’ ability to produce a speech that is rapid and comprehensible ([Brand & Götz, 2011](#); [Crowther et al., 2015](#)). In such a broad definition, searching for words is not observable. Furthermore, the grammar allows the listener to get information without ambiguities, and performance aspects of speech—such as er, erm, and ah—are used to maintain the flow of discourse ([Brand & Götz, 2011](#); [Nakatani, 2010](#)).

fluency is a complex and multifaceted construct, often difficult to define and measure (Kormos, [2006](#); Lennon, [1990](#); Segalowitz, [2010](#)). In recent years, however, attempts have been made to unpack the concept of fluency and to identify ways of measuring it reliably. Segalowitz's ([2010](#)) model of fluency and Skehan's ([2003](#)) framework for measuring it are two examples of successful attempts that have expanded our conceptual understanding of fluency, providing the discipline with more valid and reliable indices of fluency. Following from Skehan ([2003](#)), researchers in this area have reported that fluency can be consistently measured using indices related to three key aspects of fluency: speed (i.e., how fast a speaker talks), breakdown (how much pausing disrupts the flow of speech), and repair (how much repair is used to correct, reformulate, and restore L2 utterances) (Kahng, [2014](#); Kormos, [2006](#); Tavakoli & Skehan, [2005](#)). More recently, other researchers (Bosker et al., [2013](#); Huensch & Tracy–Ventura, [2016](#); Hunter, [2017](#); Skehan, [2015](#)) have argued that a distinction can be made between (a) composite measures of fluency, that is, measures that combine two or more of these aspects (e.g., speed and breakdown fluency in *mean length of run*; speed, breakdown, and repair in the measure *pruned speech rate*), and (b) pure measures, that is, measures that examine only one aspect (Skehan, [2014](#)).

Statement of The Problem:

To make sure that the students encounter problems of speaking fluency, a pilot study was conducted among 50 EFL students at the

Faculty of Specific Education. A pilot Fluency test was administered, and students' responses were corrected and analysed. Results indicated that more than (80%) of the students obtained very low scores. The current study, therefore, is an attempt to enhance students' speaking fluency.

Purpose of the Study: This study aims at improving EFL prospective teachers' speaking fluency at Faculty of Specific Education.

Questions of the Study:

This study discusses the following main question:

" What is the effectiveness of a Program Based on Interactive Inquiry-based learning in Developing EFL Students' Speaking Fluency at the Faculty of Specific Education? "

The following sub-questions could be derived from this main question:

- 1) To what extent do students master Speaking Fluency?
- 2) What are the procedures for Utilizing Inquiry-based Learning to develop EFL students' Speaking Fluency?

To what extent is Inquiry-based learning effective in developing EFL students' Speaking Fluency?

Hypotheses of the study:

Hypotheses of the study could be stated as follows:

1. There is a statistically significant difference between the mean scores of the experimental group and the control one on the speaking fluency post-test results in favour of the experimental group.
2. There is a statistically significant difference between the mean scores of the experimental group in the pre- and post- results of speaking fluency test in favour of the post- results.
4. Inquiry based learning is effective in enhancing speaking fluency.

Delimitations of the study:

The current study is delimited to the four-year university level students of Mass Media Department at the Faculty of Specific Education for the following reasons as they need to enhance their Speaking Fluency.

Definition of terms:

Inquiry based learning:

Inquiry-based learning is an educational strategy in which students follow methods and practices like those of professional scientists to construct knowledge (Keselman, 2003). It can be defined as a process of discovering new causal relations, with the learner formulating hypotheses and testing them by conducting experiments and/or making observations (Pedaste, Mäeots, Leijen, & Sarapuu, 2012). Often it is viewed as an approach to solving problems and involves the application of several problem-solving skills (Pedaste & Sarapuu, 2006). Inquiry-based learning emphasizes active participation and learner's

responsibility for discovering knowledge that is new to the learner (de Jong & van Joolingen, 1998)

Inquiry based learning is one of the strategies that can be used by the teachers in teaching speaking. Inquiry-based learning is an approach to teaching and learning that places students' questions, ideas, and observations at the centre of the learning experience (CBS:2013). According to Scardamalia (2002), in IBL (Inquiry-based learning), the teachers play an active role throughout the process by establishing a culture where ideas are respectfully challenged, tested, redefined, and viewed as improvable, moving children from position of wondering to a position of enacted understanding and further questioning.

Fluency:

Fluency is to speak slowly at normal speed without hesitation, repetition, and the use of harmonious compound statements speech. It deals with the way students speak fluently. (Matthews, Alan, Spratt, & Dangerfield, 1991) in (Irawati, 2014:7).

'The ability to speak spontaneously, without having to stop and pause a lot. It can be done with habituation so that mutual understanding communication materials can be captured between speakers and listeners.'

Fluency on the other hand, the ability to speak fluently, confidently and at a level consistent with the language community standards. People like the ones who like to keep talking. They have a desire to keep trying a new language without mistakes. But if it keeps on making a lot of mistakes, it's not impossible to speak, the ideas that these students say are hard to catch. This is in connection with the theory of (Skehan & Foster, 1999) in (Derakhshan, Khalili, & Beheshti, 2016:180) which mentions that speaking fluency pertains to the ability to produce the spoken language "without undue pausing or hesitation".

(Fillmore, 1979) in (Yang, 2014:197) stated speaking fluency as: a) the ability to speak for a long time with several interval; b) can create coherent, justified and semantic sentences; c) have appropriate expressions in different contexts d) language use should be creative and imaginative. It means those statements are needed to measure the students in their speaking fluency. Speaking is part of second language learning and teaching, so it is important for student to speak English fluently.

Review of Literature:

Inquiry Based-Learning:

Inquiry-based learning is an active learning approach that involves posing questions or problems to be investigated, rather than relying on the teacher to present information. Instead of lecturing, the teacher acts

as a facilitator to guide students in their research and problem-solving efforts. This approach helps develop critical thinking, problem-solving, and research skills. It is often used in smallscale investigations and projects, as well as research. The focus of inquiry-based instruction is to help students develop thinking and problem-solving skills, while also preparing them for their future. Teachers should create an environment that is well-equipped for inquiry-based learning, rather than relying on fixed sources of information (Abdi, 2014).

According to Kang (2020), inquiry-based learning requires a supportive environment with high-level teacher-student interaction and constructive feedback. Dawes (2004) emphasizes that teaching and learning are social processes. NRC (2001) suggests that learning environments that focus on directly conveying information do not encourage questioning. Diseth's (2007) research shows that students' learning approach is partly influenced by how they perceive the learning environment. Bardone et al. (2017) emphasize that teachers have a crucial role in creating such environments by providing opportunities for students to use information, allowing them to work independently, and make their own decisions during the inquiry process.

Agbaria and Atamna (2014) highlight that a positive classroom environment has a significant impact on the development of students' personalities, as well as the school and surrounding community. To enhance student outcomes, researchers need a tool to measure the learning environment before implementing changes to increase its effectiveness (Walker, 2004).

Inquiry-based learning (IBL) encompasses various pedagogical approaches that prioritize problem-solving, questioning, knowledge construction, and research (Kang, Orgill, & Crippen, 2008; Marshall, Horton, & Smart, 2009). Sumiati (in Andriani, Vera Septi, The Effectiveness of Inquiry Learning Method to Enhance Students' Learning outcome, (2016) argues that teaching strategies should focus on active learning to facilitate the acquisition of learning outcomes. These strategies should also address the challenges that arise during the learning process and provide opportunities for practicing teaching skills through various activities.

According to Hamdayana and Jumanta (2016), inquiry-based learning requires students to not only master the material but also use its potential. Previous studies have shown that inquiry-based learning involves both teachers and students asking questions to promote active thinking, leading to improvements in cognitive and critical thinking skills (Kingir et al., 2012; Kulo & Bodzin, 2013). Longitudinal research has also demonstrated that inquiry-based learning has a positive impact

on the development of various skills (Chen et al., 2016). The main objective of this approach is to deepen students' knowledge, which begins when they are presented with a problem or question, and then they delve deeper into an inquiry cycle to further their understanding (Ibrahim et al., 2017)

Inquiry-based learning not only helps students develop their cognitive and critical thinking skills, but also leads to the development of their conceptual understanding. This can only happen when all steps of inquiry-based learning are completed and students have developed the necessary process-related skills (Sotáková et al., 2020). As a result, students who have the skills to scientifically explain phenomena can be reached (Mutlu, 2020). This approach has been found to be effective in contributing to students' interest in science-related fields and their career planning, while also promoting their motivation for science (Burgin et al., 2015; Kuo et al., 2019; Meyer & Crawford, 2015; Scogin, 2016). Furthermore, inquiry-based learning helps students easily manage the learning process by being inquisitive and making sense of concepts, as their conceptual understanding develops and changes (Morrison et al., 2015; Shi et al., 2020).

Escalante (2013) identified five stages of IBL strategy that are typically used in classroom activities, especially in the context of teaching speaking. These stages include the asking stage, investigating stage, creating stage, discussing stage, and reflecting stage.

According to Escalante (2013), the first stage of IBL strategy involves students planning their tasks and formulating meaningful questions related to the topic they will be discussing as a part of their unit of study. This stage allows students to choose topics they are interested in and facilitates their engagement with the learning experience. By applying IBL strategy, students are encouraged to develop critical thinking skills as they make questions based on their background knowledge and interests. Milatasari (2013) conducted a study entitled "Improving Students' Ability in Writing through Inquiry Based Learning" which found that IBL can make students more confident and active and help them develop their critical thinking and understanding of concepts. This underscores the importance of the first stage in enabling students to effectively follow the IBL strategy.

The second stage of IBL strategy is the investigating stage, which involves gathering information. As Escalante (2013) explains, students collaborate in subgroups to focus on a specific topic, and then proceed to collect information from various sources, including conducting interviews and observations. If necessary, they may also revise or refine their initial questions. The aim of this stage is to enhance students'

understanding of the topic. Abdelraheem and Asan (2006) emphasize that Inquiry-Based Learning is a suitable approach to exploring students' knowledge. Therefore, during this stage, students work in groups to discover new information related to the questions that they generated during the first stage. Just a small correction: the Hebrank (2000) reference seems to be about the "third cycle," not the "third stage." Additionally, the last sentence might need to be rephrased for clarity. Here's a possible revision:

The third stage, as described by Escalante (2013), is where students use the information, they gathered in the previous stage to generate new insights and ideas. They synthesize their knowledge and create new connections, extending beyond their prior experience. This is also the stage where students practice their composition skills by putting together their findings and ideas into a cohesive form, such as a report, presentation, or creative project. In Hebrank's (2000) model of inquiry, this stage is referred to as the third cycle, where students generate new questions based on their observations and data analysis from the previous cycle.

According to Escalante (2013), the fourth stage of IBL is the discussing stage where students share their new discoveries with other members of their sub-group. This stage is essential for involving students in a community-building process and developing their enthusiasm for the learning experience. It also provides students with the opportunity to speak freely and explore their speaking ability with their peers. As stated by Tarone (2005), the interaction among students during this stage can significantly impact their speaking ability, as learners' performance is always influenced by the person they are talking with. Therefore, the discussing stage is the most important stage for the development of speaking ability using the IBL strategy.

The fifth and final stage is the concluding stage, where students reflect on the research process and draw conclusions based on their findings. Hebrank (2000) notes that this stage involves students making conclusions about the topic they have investigated and presenting their conclusions to others. This stage is essential for helping students develop critical thinking skills and effectively communicate their ideas and findings to others.

Speaking Fluency:

The term fluency which is defined as the ability to use the language quickly and confidently without much hesitations or too many unnatural pauses to cause barriers in communication (Bailey, 2003; Byrne, 1986), in the process of learning English as a foreign language has frequently

occurred in the minds and thoughts of both teachers and students recently.

In other words, fluency is an expectation for anyone who wishes to be competent in a target language that they have spent their time and efforts to acquire it. According to Shahini and Shahamirian(2017), one of the major characteristics of communicative competence is fluency. Fluency is considered as an important indicator for progressing in language learning (Chambers, 1997) and it becomes one of the conditions which ensure the success in communication (Gorkaltseva, Gozhin, & Nagel, 2015).

The term fluency is connected to communication. Lennon (2000) defined fluency as "the rapid, smooth, accurate, lucid, and efficient translation of thought or communicative intention into language (p. 26)". So, fluency does not entail only speed but also social interaction. Fillmore (1979) postulated that fluency might be characterized by four different dimensions: a) talk with not many pauses in a specific range of time; b) talk with cohesion and coherence; c) adapt the speech to different contexts, and d) be creative in the language and create diverse situations.

Students misunderstand the concept of fluency because they think it is the ability to speak fast, so when they learn a language and speak rapidly, they think they are fluent in that language (Browne & Fulcher, 2017). Indeed, fluency is associated with speed, but not only this aspect needs to be considered. It is also related to rate; hesitations; repetitions; and corrections. Research on second language fluency has been growing lately (Ginther et al., 2010; Lennon, 2000; Luoma, 2004); consequently, techniques to measure students' oral fluency have also appeared and developed. The most common aspects of speaking fluency measured by the studies are: First, rate, the number of syllables spoken by a minute. The bigger the number of syllables, the higher the fluency (Ginther et al., 2010). Second, hesitation, relates to the number of pauses done in a determined time (Riggenbach, 1991). These pauses may be due to a lack of vocabulary, time to reformulate the sentence, or just distraction (Park, 2016).

There are two types of pauses: silent pauses (Riggenbach, 1991), pauses with no articulations (Park, 2016), which their length can categorize: a) micro pause – 0.2 second of silence, b) hesitation – 0.3 to 0.4 second of silence and c) unfilled pause– 0.5 second or greater of silence (Riggenbach, 1991) and filled pause, pauses with articulations such as 'Uhm,' 'er,' and 'mm. Third, repair, repetition of the same speech to make corrections because the speaker said something that is judged inappropriate, wrong, or irrelevant (Schegloff, 2007).

Speaking fluency is an area of persistent interest to applied linguists (Kopenen & Riggenbach, 2000). There are a number of key areas of interest, such as what hesitation and self-repair phenomena tell us about L2 learners' processing in syntactic and discourse contexts (e.g., Deese, 1980; Ejzenberg, 2000; Lennon, 2000; Pawley & Syder, 2000; Riggenbach, 1989); how pauses, and clause and phrase boundaries are related in fluent and non-fluent L1 and L2 speakers (e.g., Butterworth, 1980; Crystal & Davy, 1969; Goldman Eisler, 1968; Levelt, 1989; Pawley & Syder, 2000) and how these may be measured to show L2 learner fluency development over time (Lennon, 2000); and how L2 speakers' pauses affect listeners' perceptions of an L2 speaker's fluency and ability to communicate ideas (e.g., Butcher, 1980; Ejzenberg, 2000; Olynak, Anglejan, & Sankoff, 1990; Wennerstrom, 2000).

Whether one defines fluency in a broad sense ("semantic density, sociolinguistic appropriateness, and creativity in language use," Kopenen & Riggenbach, 2000, p. 7) or a narrow sense ("the speed and smoothness of oral delivery," Lennon, 2000, p. 25) there is no doubt that speaking fluency is implicated in judgments of whether an L2 speaker has communicative competence (Olynak, Anglejan, & Sankoff, 1990; Pawley & Syder, 1983; Riggenbach, 1989). This study focuses on fluency defined in the "narrow" sense.

Methods of the Study

Design

Adopting the quasi-experimental design, the control and experimental groups were pre-tested on speaking fluency. Then the treatment was administrated by the researcher. The experimental group received training through inquiry-based learning. On the other hand, the control group taught through the traditional method.

Participants:

Sample of Mass Media Department Students from Faculty of Specific Education in Zagazig University were selected then assigned to a control group (30 students) and an experimental group (30 students).

Instruments:

1. A checklist was designed to the jury members to state the most important Speaking Fluency skills needed for the students.
2. Speaking Fluency test was also designed to be submitted to the jury members to determine its validity and reliability.
3. Utilizing Inquiry-based learning to investigate the effect of SRS on developing Speaking Fluency.

Results and Interpretation

The First Hypothesis:

The first hypothesis indicates that, "There is a statistically significant difference between the experimental and the control groups' mean scores in the post-administration of Speaking Fluency test in Favor of the experimental group." To confirm this hypothesis, the researcher used the independent sample t-test to compare the mean scores of the experimental group students who used IBL with those of the control group students who used the traditional method, on the post-test. The results are presented in the following table:

Fluency:

Table (1): Post t-test results of the control and the experimental groups in Speaking Fluency test:

Skills	Groups	Mean ranks	Sum of ranks	V	Z	Sig.
1- Fluency: - Appropriate length	- Control	24.76	619.00	249.000	0.410	Not significant
	- Exp	26.24	656.00			
- Cohesive devices	- Control	25.86	646.50	303.500	0.229	Not significant
	- Exp	25.14	628.50			
- No hesitation	- Control	24.30	608.00	283.000	0.661	Not significant
	- Exp	26.68	667.00			
- Discourse makers	- Control	24.50	607.00	281.000	0.695	Not significant
	- Exp	25.30	661.00			
Total	- Control	24.76	619.00	249.000	0.371	Not significant
	- Exp	26.24	656.00			

The table above states that the mean scores of the experimental group students are higher than those of the control group in Fluency, where t-value is (249.000) for fluency, which is significant at 0, 01 level. Therefore, this hypothesis was confirmed. These differences can be attributed to utilizing IBL in teaching EFL Speaking Fluency.

The Second Hypothesis:

The second hypothesis indicates that there is a statistically significant difference between the mean scores of the experimental group in the pre and post-administrations of Speaking Fluency test in favour of the post-administration. To verify this hypothesis, the researcher used the paired sample t-test to compare the mean scores of the experimental group who used IBL in the pre and post-test. The following table includes the results.

Table (2): Post t-test results of the experimental group in pre and post EFL Speaking Fluency test:

Skill	Test	N	Mean	S. D	d. F	t-value	Sig
Fluency	Pre	25	2.42	1.926		19.40	
	Exp	25	6.60	.855			

The table above states that the mean scores of the experimental group students are higher than those of the control group in EFL E-Critical

Reading Comprehension Skills, where t-value is (19.50) for Fluency, which is significant at 0, 01 level. Therefore, this hypothesis was confirmed. These differences can be attributed to utilizing IBL in teaching EFL Speaking Fluency.

The Third Hypothesis:

The third hypothesis indicates that "Inquiry Based-Learning would have a positive influence on developing the EFL Speaking Fluency. To verify this hypothesis, the researcher calculated the effect size by using the paired sample t-test to compare the scores of the experimental group in Speaking Fluency in the pre and the post test using Cohen's formula.

Table (3): The effect size of the experimental group in the EFL Speaking Fluency in the pre and the post-test:

Skill	Test	N	Mean	S. D	t	Eta square	Effect size
Fluency	Pre	25	2.40	0.621	19.40	0.855	2.8 large
	exp	25	6.50	.851			

Table (3) states that the effect size of the experimental group students in the post test is greater and higher than those of the pre-scores in the EFL Overall EFL Speaking Fluency, where the effect size is (2.8) for Fluency, which is significant at 0.01 level of significance. Therefore, this hypothesis was confirmed. These differences can be attributed to Inquiry Based-Learning (IBL).

According to the findings of Cohen's formula and the interpretations of the effect size, Inquiry Based-Learning (IBL) had a positive effect on enhancing the students' EFL Speaking Fluency.

Suggestions for Further Research:

The following topics are suggested for further research:

1. Using Inquiry based-learning to develop other language skills; writing, speaking, and listening.
2. Using inquiry based-learning to improve the low-achievers' speaking skills.
3. Using inquiry based-learning to investigate their effect on the other speaking skills.

References:

- Abdelraheem, A., & Aan, A. (2006). The effectiveness of inquiry-based technology enhanced the collaborative learning environment. *International Journal of Technology in Teaching and Learning*, 2(2), 65-87.
- Abdi, A. (2014). The effect of inquiry-based learning method on students' academic achievement in science course. *Universal Journal of Educational Research*, 2(1), 37-41.

- Agbaria, Q., & Atamna, A. (2014). Classroom environment and self-control skills and their relationship with adolescents' violence in the Arabic community of Israel. *American Journal of Applied Psychology*, 2(2), 42-52.
- aJesa, M. (2010). Efficient English teaching. APH.Leong, L. M., & Ahmadi, S. M. (2017). An analysis of factors influencing learners' English-speaking skills. *International journal of Research in English Education*.
- Bailey, K. M. (2003). *Practical English language teaching*. New York: McGraw-Hill Contemporary.
- Bardone, E., Burget, M., Saage, K., & Taaler, M. (2017). Making sense of responsible research and innovation in science education through inquiry-based learning. Examples from the field. *Science Education International*, 28(4), 293-304.
- Bøhn H. (2015). Assessing EFL spoken language. *SAGE Open*, 5(4), 1-12.
- Brand C., Götz S. (2011). Fluency versus accuracy in advanced spoken learner language: A multi-method approach. *International Journal of Corpus Linguistics*, 16, 255-275.
- Browne, K., & Fulcher, G. (2017). Pronunciation and intelligibility in assessing spoken fluency. In T. Isaacs & P. Trofimovich (Eds.), *Second Language Pronunciation Assessment: Interdisciplinary Perspectives* (pp. 37-53).
- Brumfit, C. (1984). *Communicative methodology in language teaching: The roles of fluency and accuracy*. Cambridge: Cambridge University Press.
- Burgin, S. R., McConnell, W. J., & Flowers, A. M. (2015). 'I Contributed to Their Research': The influence of an abbreviated summer apprenticeship program in science and engineering for diverse high-school learners.' *International Journal of Science Education*, 37(3), 411-445.
- Butcher, A. (1980). Pause and syntactic structure. In H. Dechert & M. Raupach (Eds.). *Temporal variables in speech* (pp. 85-90). The Hague: Mouton Publishers.
- Butterworth, B. (1980). Evidence from pauses in speech. In B. Butterworth (Ed.). *Language production: Speech and talk* (pp. 155-176). London: Academic Press.
- Bygate, M. (1991). *Speaking*. Oxford: Oxford University Press.
- Byrne, D. (1986). *Teaching Oral English*. Cambridge: Cambridge University Press.
- Chambers, F. (1997). What do we mean by fluency? *System*, 25(4), 535-544.

- Crowther D., Trofimovich P., Isaacs T., Saito K. (2015). Does a speaking task affect second language comprehensibility? *Modern Language Journal*, 99, 80-95.
- Deese, J. (1980). Pauses, prosody, and the demands of production in language. In H. Dechert & M. Raupach (Eds.). *Temporal variables in speech* (pp. 69-84). The Hague: Mouton Publishers.
- Derakhshan, A., Khalili, A. N., & Beheshti, F. (2016). Developing EFL Learner 's Speaking Ability , Accuracy and Fluency, 6(2), 177–186.
- Diseth, Å. (2007). Students' evaluation of teaching, approaches to learning, and academic achievement. *Scandinavian Journal of Educational Research*, 51(2), 185-204.
- Ellis, R. (2009). Task-based language teaching: sorting out the misunderstandings. *International Journal of Applied Linguistics*, 19, 221–246.
- Escalante, Patricia. 2013. Inquiry-based learning in English as a foreign language class. *Revista De Lenguas Modernas: Costa Rica*. Feletti, G. (1993). Inquirybased and problem-based learning: how similar are these approaches to nursing and medical education? *Higher education Research & Development*, 12(2), 143-156.
- Fillmore, C. J. (1979). On fluency. In D. Kempler & W. Wang (Eds.), *Individual differences in language ability and language behavior* (pp. 85–102). Academic Press.
- Fillmore. (1979). *Individual differences in language ability and language behavior*. New York: Academic Press.
- Ginther, A., Dimova, S., & Yang, R. (2010). Conceptual and empirical relationships between temporal measures of fluency and oral English proficiency with implications for automated scoring. *Language Testing*, 27(3), 379–399.
- Ginther, A., Dimova, S., & Yang, R. (2010). Conceptual and empirical relationships between temporal measures of fluency and oral English proficiency with implications for automated scoring. *Language Testing*, 27(3), 379–399.
- Gorkaltseva, E., Gozhin, A., & Nagel, O. (2015). Enhancing Oral Fluency as a Linguodidactic Issue. *Procedia - Social and Behavioral Sciences*, 206, 141 – 147.
- Gut U. (2009). *Non-native speech: A corpus-based analysis of phonological and phonetic proper- ties of L2 English and German*. Frankfurt am Main, Germany: Peter Lang.
- Hamdayana, Jumanta, *Metodologi Pengajaran*, Jakarta: Bumi Aksara, 2016.

- Harmer J. (2007). *The practice of English language teaching* (4th ed.). Edinburgh, UK: Pearson.
- Harmer, J. (2001). *The Practice of English Language Teaching*. Harlow: Pearson Education.
- Hebrank, Mary. (2000). "Why inquiry-based teaching and learning in the middle school science classroom.
- Housen A., Kuiken F. (2009). Complexity, accuracy, and fluency in second language acquisition. *Applied Linguistics*, 30, 461-473.
- Ibrahim, A., Aulls, M. W., & Shore, B. M. (2017). Teachers' roles, students' personalities, inquiry learning outcomes, and practices of science and engineering: The development and validation of the McGill attainment value for inquiry engagement survey in STEM disciplines.
- Irawati, I. (2014). IMPROVING STUDENT' S SPEAKINGABILITY THROUGH COMMUNICATIVE LANGUAGE GAMES, (87), 25-36.
- Kang, N. H., Orgill, M. K., & Crippen, K. J. (2008). Understanding teachers' conceptions of classroom inquiry with a teaching scenario survey instrument. *Journal of Science Teacher Education*, 19(4), 337-354. <https://doi.org/10.1007/s10972-008-9097-4>
- Kingir, S., Geban, O., & Gunel, M. (2012). How does the science writing heuristic approach affect students' performances of different academic achievement levels? A case for high school chemistry.
- Kopenen, M., & Riggenbach, H. (2000). Overview: Varying perspectives on fluency. In H. Riggenbach (Ed.). *Perspectives on fluency* (pp. 5-24). Ann Arbor, MI: The University of Michigan Press.
- Kulo, V., & Bodzin, A. (2013). The impact of a geospatial technology-supported energy curriculum on middle school students' science achievement. *Journal of Science Education and Technology*, 22(1), 25-36.
- Kuo, Y. R., Tuan, H. L., & Chin, C. C. (2019). Examining low and non-low achievers' motivation towards science learning under inquiry-based instruction. *International Journal of Science and Mathematics Education*, 17(5), 845-862.
- Lennon, P. (1990). Investigating fluency in EFL: A quantitative approach. *Language Learning*, 40(3), 387-417.
- Lennon, P. (2000). The lexical element in spoken second language fluency. In H. Riggenbach (Ed.). *Perspectives on fluency* (pp. 25-42). Ann Arbor, MI: The University of Michigan Press.
- Lennon, P. (2000). The lexical element in spoken second language fluency. In H. Riggenbach (Ed.), *Perspectives on Fluency* (pp. 25-42). University of Michigan Press.

- Matthews, Alan, Spratt, M., & Dangerfield, L. (1991). *At The Chalkface: Practical Techniques in Language Teaching*. Hongkong: Thomas Nelson and Sons Ltd.
- Milatasari, Y.U. (2013). Improving students' ability in writing through inquirybased learning. Universitas Sebelas Maret.
- Morrison, J., Roth McDuffie, A., & French, B. (2015). Identifying key components of teaching and learning in a STEM school. *School Science and Mathematics*, 115(5), 244–255.
- Mutlu, A. (2020). Evaluation of students' scientific process skills through reflective worksheets in the inquiry-based learning environments. *Reflective Practice*, 21(2), 271–286.
- Nakatani Y. (2010). Identifying strategies that facilitate EFL Learners' oral communication: A classroom study using multiple data collection procedures. *The Modern Language Journal*, 94, 116-137.
- NRC. (2001). *Inquiry and the National Science Education Standards*. Washington, DC.
- Nunan, D. (2003). *Practical English Language Teaching*. Boston: McGraw Hill.
- Olynak, M., Anglejan, A., & Sankoff, D. (1990). A quantitative and qualitative analysis of speech markers in the native and second language speech of bilinguals. In R. Scarcella, E. Andersen, & S. Krashen (Eds.). *Developing communicative competence in a second language* (pp. 139-155). Boston, MA: Heinle & Heinle Publishers
- Park, S. (2016). *Measuring fluency: Temporal variables and pausing patterns in L2 English speech*. [Doctor's dissertation, Purdue University].
- Pedaste, M., Mäeots, M., Siiman, L. A., De Jong, T., Van Riesen, S. A., Kamp, E. T., & Tsourlidaki, E. (2015). Phases of inquiry-based learning: Definitions and the inquiry cycle. *Educational research review*, 14, 47-61.
- Riggenbach, H. (1991). Towards an understanding of fluency: a microanalysis of nonnative speaker conversation. *Discourse Processes*, 14(4), 423-441.
- Riggenbach, H. (1991). Towards an understanding of fluency: a microanalysis of nonnative speaker conversation. *Discourse Processes*, 14(4), 423-441.
- Samaranayake S. W. (2016). Oral competency of ESL/EFL learners in Sri Lankan rural school context. *SAGE Open*, 6(2), 1-10.
- Schegloff, E. (2007). *Sequence Organization in Interaction: A Primer in Conversation Analysis*. Cambridge University Press.

- Schegloff, E. (2007). *Sequence Organization in Interaction: A Primer in Conversation Analysis*. Cambridge University Press.
- Shahini, G., & Shahamirian, F. (2017). Improving English Speaking Fluency: The Role of Six Factors. *Advances in Language and Literary Studies*, 8(6), 100-104
- Shi, W. Z., Ma, L., & Wang, J. (2020). Effects of inquiry-based teaching on Chinese university students' epistemologies about experimental physics and learning performance. *Journal of Baltic Science Education*, 19(2), 289-297.
- Skehan, P., & Foster, P. (1999). The influence of task structure and processing conditions on narrative retellings. *Language Learning*, 1, 93-120.
- Tarone, E. (2005). Speaking in a second language. in E.Hinkel (Ed.), *Handbook of research in second language teaching and learning* (pp. 485- 502).Mahwah, NJ: Laurence Erlbaum Associates.
- Yang, Y. I. J. (2014). The Implementation of Speaking Fluency in Communicative Language Teaching: An Observation of Adopting the 4 / 3 / 2 Activity in High Schools in China, 2(1), 193-214.

ملخص البحث:

هدفت الدراسة الحالية إلى الكشف عن فاعلية التعلم القائم على الاستقصاء لتنمية مهارات التحدث بطلاقة لدى طلاب شعبة الإعلام التربوي بكلية التربية النوعية، ولتحقيق هذا الغرض استخدم الباحث نظام المجموعة التجريبية والمجموعة الضابطة، حيث أختار الباحث عشوائياً عينة تجريبية واحدة من طلاب الفرقة الرابعة شعبة الإعلام التربوي بلغ عددهم خمسة و عشرون طالباً، والتي درست باستخدام التعلم القائم على الاستقصاء، وخمسة و عشرون طالباً للمجموعة الضابطة والتي درست بالطريقة المعتادة، وقد قام الباحث بإعداد اختبار التحدث بطلاقة باللغة الإنجليزية كلغة أجنبية وبرنامج قائم على التعلم القائم على الاستقصاء وبعد إجراء التحليل الإحصائي توصلت الدراسة إلى النتائج الآتية: وجود فروق ذات دلالة احصائية بين متوسطى درجات المجموعتين (الضابطة-التجريبية) فى القياس البعدى فى اختبار التحدث بطلاقة لصالح افراد المجموعة التجريبية وفروق ذات دلالة احصائية بين متوسطى درجات أفراد المجموعة التجريبية فى القياسين القبلى والبعدى فى اختبار التحدث بطلاقة لصالح القياس البعدى ومن النتائج أيضا عدم وجود فروق ذات دلالة احصائية بين متوسطى درجات أفراد المجموعة التجريبية فى القياسين البعدى والتبعى فى اختبار التحدث بطلاقة لذلك فإن التعلم القائم على الاستقصاء له تأثيراً إيجابياً فى تنمية مهارات التحدث بطلاقة.

الكلمات المفتاحية: التعلم القائم على الاستقصاء - التحدث بطلاقة.