

The Effect of a Proposed program Based on the Implications of John Hattie's Visible Learning on College Students' English Oral Fluency

By

Badr Abdelfattah Abdelkafy Badr

Lecturer of EFL Curriculum & Instruction, Department of Curriculum & Instruction, Faculty of Education, Ain Shams University

Dina Sayed Nasr Ibrahim

Lecturer of EFL Curriculum & Instruction, Department of Curriculum & Instruction, Faculty of Education, Ain Shams University

Abstract: The purpose of this study was to investigate the effect of an instructional program based on the implications of John Hattie's visible learning on enhancing college students' oral fluency skills. Thirty 1st year students enrolled in STEM program at the Faculty of Education, Ain Shams University, participated in the study which took place in the 1st semester of the academic year 2021-2022. The study utilized a mixed-methods approach. A pre/post oral fluency test was administered to the participants prior to implementing the suggested instructional program. Then, an instructional program based on the implications of visible learning developed by the researchers was taught to the participants. The oral fluency test was post administered and the participants were asked to respond to a satisfaction questionnaire. Quantitative data was collected from the students' scores in the pre/post tests and was analyzed using the convenient statistical techniques. Qualitative data, on the other hand, was collected from the Students' Satisfaction Questionnaire. Findings of the study indicated the effectiveness of the proposed program in developing participants' oral fluency skills as a whole and in separation. Findings of the study are discussed and recommendations for further research are stated.

Key words: visible learning, visible teaching, oral fluency.

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أثر برنامج تعليمي مقترح قائم على متضمنات التعلم المرئي لجون هاتي على الطلاقة اللغوية الشفهية لطلاب الجامعة

إعداد

د. بدر عبد الفتاح عبد الكافي بدر
مدرس المناهج وطرق تدريس اللغة الإنجليزية
قسم المناهج- كلية التربية - جامعة عين شمس

د. دينا سيد نصر ابراهيم
مدرس المناهج وطرق تدريس اللغة الإنجليزية
قسم المناهج- كلية التربية- جامعة عين شمس

مستخلص الدراسة

هدفت هذه الدراسة إلى قياس اثر برنامج تعليمي قائم على متضمنات التعلم المرئي على مهارات الطلاقة الشفهية لدى طلاب الجامعة. شارك ثلاثون طالب وطالبة من طلاب الفرقة الأولى المقيدون ببرنامج ستيـم STEM بكلية التربية - جامعة عين شمس- في التطبيق الميداني للدراسة، وذلك خلال الفصل الدراسي الأول من العام الجامعي ٢٠٢١-٢٠٢٢. استخدم الباحثان أدوات بحث كيفية وكمية لجمع وتحليل البيانات تضمنت اختبار طلاقة شفهية ومقياس تقدير متدرج للطلاقة الشفهية واستبيان لقياس مدى رضا الطلاب عن البرنامج، تم تطبيق اختبار قبلي لقياس مهارات الطلاقة الشفهية لدى الطلاب ثم تدريس البرنامج المقترح القائم على متضمنات التعلم المرئي، والذي صممه الباحثان للطلاب، ومن ثم تطبيق الاختبار البعدي وتوجيه الطلاب لملا استبانة للتعبير عن مدى استفادتهم ورضائهم عن البرنامج. تم الحصول على البيانات الكمية من درجات الطلاب في الاختبارين القبلي والبعدي وتم تحليل هذه البيانات باستخدام الأساليب الإحصائية المناسبة، ومن ناحية أخرى تم جمع البيانات الكيفية من الاستبانة التي قام الطلاب بملئها ولقد أثبتت نتائج الدراسة فاعلية البرنامج المقترح والقائم على متضمنات التعلم المرئي في تنمية مهارات الطلاقة الشفهية ككل وعلى حدى لدى الطلاب، ولقد تم تحليل وتفسير و مناقشة النتائج كميا وكيفيا وكذلك تقديم التوصيات والمقترحات للبحوث القادمة.

الكلمات المفتاحية: الطلاقة الشفهية- التعلم المرئي- التدريس المرئي

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1. Introduction

With the introduction of STEM teachers' pre-service preparation programs in five faculties of education at Egyptian public universities in the academic year 2021-2022, the need appeared for STEM to-be teachers to master English speaking and presentation skills. Having all their study courses conducted in English, with oral presentations and discussions at their core, these students should have an adequate command of English speaking and oral fluency skills. Their courses are also characterized by ongoing, formative assessments including group and class discussions, cooperative oral activities, asking questions, mini-presentations, oral reflections and peer and teacher feedback. Such instructional activities reflect a dire need of essential oral fluency features, such as smoothness and flow of speech, coherence and relevance of ideas and thoughts, comprehension, accuracy, and proper word choice.

Oral fluency in English is also crucial for career advancement as it enhances job opportunities (Pinon & Haydon, 2010) and aids participation in the international community (Mahrous, 2019). It also gives students self-confidence and motivation to learn as they realize their ability to communicate orally (Abd Al Galil, 2019). Therefore, oral fluency may be considered an evaluative indicator of how far EFL students progress in their learning (Goh& Burns, 2012).

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Due to the importance of oral fluency for EFL learners, researchers recommended the necessity of instructional resources and programs to help learners develop their oral fluency skills (Rossiter, Derwing, Manimtim & Thomson, 2010), and the implementation of class practices that promote students' oral fluency in a supportive environment (Ibrahim, 2020).

Taken into consideration that all STEM courses are interdisciplinary and integrated, STEM prospective teachers' advancement in the English course will consequently enhance their development in the other courses.

Oral fluency competence is of a particular importance to these students in that they are supposed to be teachers of STEM courses presented at schools, and thus, having the responsibility of not only learning how to speak fluently and intelligibly in English, but teaching others how to do so as well; thereby help them develop their teaching and learning quality at the secondary level STEM schools.

Despite the impact of oral fluency development on EFL learners' progress, it appears to be a problem among Egyptian EFL college students as evidenced by many studies (e.g. Elsadek, 2020; Ibrahim, 2020; Abd Al Galil, 2019; Mahrous, 2019). This problem may be better addressed by achieving visible learning.

John Hattie's main principle throughout his work on visible learning is that both learning and teaching should be visible to learners. When they are visible, they will know exactly what they are supposed to do and why. Teachers should know whether their own teaching practices are correct or incorrect; they should know how to get and give feedback; they should try using alternative teaching strategies when other teaching strategies do not work properly. This can be achieved when teaching is visible to learners and when learning is visible to teachers. It is only when learning is visible, teachers will know whether learning is occurring or not. Teachers can do that by making their lesson objectives clear and explicit to their learners; by working on achieving the objectives; by

providing feedback; and by being evaluators of their own teaching (Hattie, 2009).

Visible learning and teaching do change the teachers' roles. To achieve visible learning and teaching, teachers should be activators such as those change agents. They should be directors of the learning process, but this does not mean that they dominate their classrooms or spend much of the time talking in the lesson; it rather means they have the willing and not just the drilling and trilling to reflect on the process and achieve the desired goals (Hattie, 2009).

By revising John Hattie's model of visible learning (Hattie, 2009, 2012), it can be found that most of the proposed principles in the model correspond to the recommended teaching/learning practices in the program descriptions of STEM teachers' preparation programs, the most prominent of which are collaborative activities, formative assessments, self and group reflections and provision of feedback in the context of oral communication in English.

A key characteristic of oral fluency is automaticity, which is referred to as natural flow of speech. Hattie and Yates (2014) discuss teaching automaticity in basic academic skill, stressing that "when automaticity is lacking, there is reduced capacity to think and comprehend". In this sense, when students lack fluency (automaticity) while speaking, they exert most of their cognitive efforts and time decoding words of what they want to say rather than keeping sequence and flow of ideas. Therefore, teaching fluency and making teaching explicit lessen the load on students' cognitive skills so they can move on to more complex details of the task (Kirby, 2013).

Other implications of Visible Learning include activating students' prior knowledge, guidance, practice, feedback and reflection by teachers and learners. It is about getting students involved in their learning, building their self-confidence, challenging their abilities and considering their expectations (Hattie, 2009, 2012; Bettiol, 2017)

As Hattie's principles of Visible Learning seem to be consistent with the instructional requirements of oral fluency

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development, the current research is an attempt to build an instructional program based on the implications of John Hattie's visible learning principles with the aim of developing STEM to-be teachers' oral fluency in English.

1.1. Context of the Problem

Pre-service STEM student teachers study an interdisciplinary English course each semester with integration to the other academic major courses revolving around Egypt's Grand Challenges. They may be specialized in Physics, Chemistry, Biology, Geology, or Mathematics. The instructional language in all the academic majors is English, as students are required to collaborate, discuss, do research, and present their capstone projects in English. One of the researchers of the current study taught the English course, and from day one, students expressed their worries and inability to speak fluently in English. They were particularly concerned about this point because they had difficulties participating actively in the other courses as well.

To closely investigate the problem, the researchers developed an observation tool by which students' practices and responses to oral activities were detected. On taking observational notes during the English course sessions, the researchers revealed the following points:

- When asked to answer a question or discuss a point, the students always started by saying, "I'll speak in Arabic".
- Although the teacher encouraged them to speak in English, they would start speaking in English then continue in Arabic or insert lots of Arabic words in their speech.
- There were also lots of mispronunciations and pauses.
- When they did not know how to express some words or ideas in English, sometimes they would laugh or stop and ask for the meaning of a particular word in English.
- Sometimes they said in Arabic, " This word...I don't know what; you know what I mean".

- Their speech was marked by lots of repetitions and breaks, as they seemed to stop to think of what to say.
- They could not express an adequate variety of ideas and details in English, which would hinder flow and result in very short and underdeveloped speech.

The researchers observed that those students had difficulty in speaking English fluently, which resulted in halting, breaks, incoherent utterances, hesitations, repetitions, and prolongations.

To further confirm the problem, the researchers conducted interviews with some students, asking them general questions about their perceptions, expectations and needs. Some of the students' responses were the following:

- I feel afraid to speak in English. I am just not accustomed to do this. I never spoke in English at the high school".
- Sometimes I do know the answer, but the question *surprises* me! I don't know how to answer in English, or I feel my thoughts are stuck!
- We study lots of new topics this semester; we must learn and memorize lots of new words. I need time to translate my thoughts from Arabic to English before I speak.
- In fact, I feel shy. It's very embarrassing when you mispronounce words or remain silent because you don't know which word you should use!

Based on the students' responses, their fluency problems may be attributed to the following reasons:

- They are not well- prepared for the speaking task, as teachers "surprise" them with questions and they usually do not have waiting time before they are required to answer.
- Even when they know the answer, they do not know how to start the conversation, which affects their fluency negatively.
- The new topics they study and the new words they have to learn exert a big cognitive burden on them, so they cannot attend to the demands of the speaking task. Also, they have to "translate" their thoughts from Arabic to English, as they do not activate their

prior knowledge before the task, and therefore, they are not well prepared.

- Some of them lack self-confidence by which they avoid speaking and refrain from actively engaging in oral discussions.

1.2. Statement of the Problem

The problem of the current study is STEM student's lack oral fluency skills, which results in hesitations, breaks and underdeveloped speech, and which is also negatively reflected on their performance in their major study and capstone projects. This may be due to the complicated cognitive demands of speaking fluently, in addition to the lack of instructional approaches favoring oral fluency development. Henceforth, the current research tried to answer the following main question:

What is the effect of a program based on John Hattie's visible learning principles on enhancing STEM students' oral fluency?

In answering this main question, the following sub-questions were also answered:

- What are the oral fluency skills that the 1st year STEM to-be teachers should have?
- What are the oral fluency skills that those students already have?
- How can a program based on John Hattie's visible learning principles be designed to enhance those students' oral fluency?
- What is the effect of the proposed program on enhancing STEM students' oral fluency?
- To what extent are the participants satisfied with the proposed program?

1.3. Hypotheses of the Study

The current study attempted to verify the hypotheses below.

- There would be a statistically significant difference between the mean scores of the research group students in the oral fluency pre and post test administrations with regard to the development of their overall oral fluency skills in favor of the post test scores.

- There would be a statistically significant difference between the mean scores of the research group students in the oral fluency pre and post test administrations in developing each single oral fluency skill in favor of their post test scores.

1.4. Purpose of the Study

The purpose of the current study was twofold: First, to investigate the effect of an instructional program based on John Hattie's implications of visible learning on developing the 1st year STEM students' oral fluency skill. Second, to elicit how far the participant were satisfied with the program.

1.5. Significance of the Study

This study may be of significance to:

- **STEM students:** so that they can apply several technique and practices by which they could develop their oral fluency performance and communicate effectively with confidence.
- **EFL teachers:** so that they will be provided with different suggestions and recommendations that they may properly apply in their classroom practices to develop their EFL students' oral fluency.
- **Curriculum developers and designers:** so that they may make use of John Hattie's visible learning to develop and design curriculum and teaching materials to better develop learners' oral fluency.
- **EFL researchers:** The study is hoped to provide EFL researchers with a theoretical and empirical foundation that they can build on for further research.

1.6. Delimitations of the Study

The study was delimited to:

- A group of 30 students enrolled in the 1st year, STEM teachers' preparation program, at the Faculty of Education, Ain Shams University, in the academic year 2021-2022.
- The six oral fluency skills identified in the rubric.
- The first semester of the academic year 2021-2022.

1.7. Definitions of Terms

Oral fluency

Oral Fluency is defined by Rupp and Leighton (2017) as the ability to produce a great number of ideas that are the features that give language the qualities of being natural.

Abd Al Galil (2019) defines EFL adults' oral fluency as the learners' ability to smoothly produce and construct meaningful utterances that are well pronounced, well-structured and well-understood.

In this study, oral fluency is defined as STEM students' abilities to smoothly produce well-developed speeches characterized by natural flow of comprehensible ideas, accuracy of grammar and pronunciation, and coherent sequence of thoughts at an adequate speed and without breaks or hesitations.

Visible Learning

According to Hattie and Yates (2014), Visible Learning is the process where teacher become evaluators of their own teaching. Visible Learning and Teaching occurs when teachers see learning through the eyes of students and help them become their own teachers. In this sense, students are involved in their learning; they know how to evaluate their advancement and manage their performance. They have high expectations and exchange formative feedback with the teacher.

In the current study, visible learning is regarded as a general, guiding program integrating basic components into oral fluency instruction while taking contextual variables into consideration. These components include students' involvement in learning, students' self-reported grades and self-monitoring, students' Piagetian development and exchange of formative feedback.

2. Review of Literature

2.1. Oral Fluency

Fluency is a feature which is mostly associated with speaking, though it is also relevant to reading and writing. It refers

to high levels of language proficiency (Simensen, 2010). Fluency is "the ability to use language naturally and effectively without many fillers and pauses" (Lopez, Becerra & Ramirez-Avila, 2021), and it is characterized by smooth and effortless natural language use (Bohn, 2015).

On the other hand, Richards (2002) viewed fluency as the native-like use of specific speech features including rhythm, stress, intonation, speaking speed and fillers. In this context, they stated that oral fluency includes a set of abilities such as the ability to speak the language easily, the ability to speak with a reasonable but not necessarily ideal intonation, vocabulary, and structure, the ability to transmit thoughts and ideas properly and the ability to produce speak continuously without or with few pauses.

According to Klomjit (2013), oral fluency is viewed as an essential proficiency marker for EFL and ESL learners. For him, fluency is a good knowledge of language vocabulary and grammar. Several scholars and educators believed that the goal of oral fluency is to communicate orally like native speakers; an idea that is not accepted by many others. As stated earlier, fluency may be an easy quality to evaluate and judge an ESL or EFL learner's speaking through evaluating his or her process of how easily the words come out and how easily he or she is comfortable with the process or whether there are long pauses and hesitations in their talks or not.

Three levels of oral fluency are identified in the literature. Cognitive fluency refers to the cognitive processes involved in utterance production, such as rate of vocabulary access and recoup, syntactic encoding, linguistic attention control, and working memory capacity. Utterance fluency relates to the observable characteristics of fluency; these are speed, breakdown (silent pauses and filled pauses), and repair (repetitions and corrections). Perceived fluency refers to listeners' judgements and assessment of the speaker's fluency of speech (Suzuki, Kormos, & Uchihara, 2021; Kahng, 2020; Segalowitz, 2010).

Research has shown that students' knowledge of linguistic items does not necessarily lead to the development of their oral

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proficiency (Sari, 2017). This, in part, may be due to the lack of deliberate practice in EFL settings, but it may also be attributed to students' lack of confidence, either for fear of being criticized or because the teacher does not foster students' participation and speech (Lopez, Becerra & Ramirez-Avila, 2021; Krashen, 2013).

Oral proficiency may also be affected by cognitive, affective, sociocultural and linguistic variables (Boonkit, 2010). Having explored and analyzed different factors influencing 98 university learners' speaking fluency performance, Ngoc & Dung (2020) stated that these factors may be classified to: (a) Affective factors which are related to learners' attitudes, anxiety, confidence or fear of making mistakes; (b) performance factors which relate to the planning time students have before engaging in an oral fluency task, time pressure and support from teacher or peers; (c) Automation that results from speaking practice, and without which it will be challenging for students to be attentive and fluent; and, (d) Teacher's error correction, as it is not helpful for students when the teacher interrupt their speech to correct mistakes, and it is more essential to provide constructive feedback.

Several scholars and educators have reflected on oral fluency skills and components. According to Colby (2013), oral fluency includes delivering words and using appropriate words in different contexts with the aim of conveying ideas and thoughts. On the other hand, Devries (2017) added that the four main skills of oral fluency are comprehension, rate, automaticity (the use of smooth production of utterances with a few pauses and hesitations), and expression.

Researchers have adopted a variety of activities and approaches to developing students' oral proficiency. Some of these approaches were technology-based, such as the use of vlogs to foster authentic oral production (Lopez, Becerra & Ramirez-Avila, 2021), mobile learning (Hammam, 2020), e-portfolio (Ibrahim, 2020), and electronic project based learning (Elsadek, 2020). Other activities included concept mapping and task repetition (Ghasemi & Mozaheb, 2021) oral reading to self and narrow reading (Naguib,

2020), on-job task-based activities (Desoky, 2021), reflective listening activities (Abd Al Galil, 2019) and trivia-based activities (Iswara, Azib & Rochsantiningish, 2012).

A number of studies have reported that fluency can be better approached by some pedagogical practices. One of these practices is raising awareness of the features of fluency (Boers, Eyckmans, Kappel, Stengers, & Demecheleer, 2006). This consciousness-raising pedagogical practice was reported to be more effective in private tutoring rather than in regular classroom settings. Other pedagogical practices that have been reported to be effective with improving oral fluency was the use of task repetition, task-based learning and role play (Bygate, 2001; De Jong & Perfetti, 2011; Gatbonton & Segalowitz, 2005). The current study focuses on treating oral fluency through the implications of John Hattie's visible learning.

Oral fluency can be informally assessed through different methods and perspectives. According to Leclerq, Edmonds, and Hilton (2014), the main criterion that should be considered when assessing oral fluency is the speaker's hesitation which is considered as a sign of his or her disfluency. On the other hand, Fulcher (2004) thinks disagrees with this view and sees that hesitation is a natural speech feature not just for EFL or ESL learners but for native speakers as well.

According to Klomjit (2013), oral fluency in ESL or EFL settings is mainly formally assessed by humans or automatic evaluating systems which may target measuring speech clarity, vocabulary, pronunciation and grammar. In this context the American Council on the Teaching of Foreign Languages (ACTFL) assesses oral proficiency through human – marked speaking tests (ACTFL, 2012). The ACTFL oral proficiency assessment (2012) classify oral proficiency into five main levels: distinguished, superior, advanced, intermediate, and novice. Here, oral fluency is concerned with the ability of speaking without effort. On the other hand, the Test of English as a Foreign Language (TOEFL), IBT speaking test is a computerized- based test system (ETS, 2012).

2.2. Visible Learning

Visible Learning (VL) is a theoretical program set by John Hattie, professor of Education at the University of Auckland. According to Cunningham and Tannner (2021), John Hattie in his publication on visible learning has reported his entire 15 years of work on his well-known study on visible learning that covered over 800 meta-analyses of research. These analyses focused on a number of 138 items that could have separate influence on students' achievement. In other words, the program is based on the summary and synthesis of over 800 meta-analyses comprising more than 50000 empirical studies.

According to Cunningham and Tannner (2021) Hattie created a special way to report this data analyses by giving an effect size to each influence. He found the average effect size of the influences to be 0.40. which is treated as a benchmark of the average amount of development students can achieve after spending a year of instruction.

The influences that affect student learning reported by John Hattie has been classified into six domains. These domains are student, home, school, teacher, curriculum, and teaching strategies (Hattie, 2009). Influences that have an effect size larger than 0.40 were considered to have positive influence on student achievement (Hattie, 2009). The effect size of 0.40 was considered to be the benchmark to make decisions about the influences.

Having calculated the effect size for 138 influences on students' achievement, Hattie argued that "Teacher" had the greatest effect among the six identified domains affecting the success of school learning (i.e., Student, Home, School, Teacher, Curricula and Teaching approaches).

Hattie ranked the 138 factors included in these domains into (1) highly influential, the strongest of which are self-reported grades, Piagetian development and formative evaluation; (2) weak influences, such as age classes and open versus traditional teaching;

and (3) negative/ impeding influences such as family mobility (Terhart, 2011).

According to Cunningham and Tanner (2021), visible learning is more than a list of the positive or negative impact of a number of influences on student's achievement. Hattie (2009) argued that among the several variables that affect the students' learning journey, the teacher is the teacher comes in the first rank. In this context, he described teachers as being activators and as directors of learning.

Considering the effect of Teacher, VL claims for an enhanced role of teachers as they become evaluators of their own teaching and its impact on their students' learning. Teachers can realize how effective and influential they are through visualizing their students' success. The idea is to make learning visible to teachers through understanding how their students progress and getting feedback from their progress as for how to adjust and choose teaching strategies for future teaching. Teachers' visibility in this sense is about reflecting on what learning looks like through the students' eyes, rather than considering what teachers *think* happened in the classroom (David-Lang, 2013; Knudsen, 2017).

The biggest impact that Hattie is getting students to talk about their learning and what it means to be successful (Knudsen, 2017). Teaching students to speak about their expectations and ways of learning raises their self-awareness and enhances metacognitive development, which leads to lifelong learning. Students can get the opportunity to do so only when there is a good and supportive relationship between the students and the teacher by which they both exchange feedback on their influences on each other and learn how to optimize them (Fisher & Frey, 2016; Arnold, 2011). In this concern, Hattie pays a considerable attention to the element of reflection by which both teachers and learners can evaluate their success (Knudsen, 2017).

Critics to Hattie's work (e.g. Wecker, Vogel, & Hetmanek, 2016; McKnight & Whitburn, 2020; O'Connor, 2020) claimed the

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inefficiency of his model which "cannot be used as a universal measure of impact", as inclusion and exclusion criteria of grouping factors are not identified (Bergeron, 2017, p. 238). Also, qualitative studies were not considered in Hattie's meta-analysis; and therefore, only observable or measurable student performances were used as indicators of successful teaching/ learning (Terhart, 2011; Higgins & Simpson, 2011).

Despite the limitations of Hattie's research, he was aware of them (Snook, O'Neill, Clark, O'Neill & Openshaw, 2009), and therefore, responded to these counterclaims, explaining that VL offers probability statements about higher chances of success when implementing the influences nearer the top than bottom of the chart he proposed, but it eventually depends on teachers' choices, adaptations, experience, and the evidence of impact they have on their learners. Hattie's response sheds light on the purpose of his research, which he made clear by quoting John Dewey's words, "Evidence does not supply us with rules for action but only with hypotheses for intelligent problem solving, and for making inquiries about our ends in education". (John Dewey, quoted in Hattie, 2008, p.147). By that, he asserted that the main intention of his research was getting teachers into the idea of "know thy impact" by getting them to explore and judge their instructional experiences by themselves, rather than describing his work as "evidence-based", thus giving the impression that his conclusions are unquestionable (Knudsen, 2017, p.256).

Although VL principles seem to apply in every country, including China, Japan and Denmark, educators should be "very careful in listening to the local context" (Knudsen, 2017, p.255). Thus, teachers should learn how to use the right instructional strategy at the right time to determine which practices are most successful at a particular learning stage (Fisher, Frey & Hattie, 2016).

To get out of this controversy, and to avoid the aforementioned limitations of Hattie's research, the current study

does not adopt Hattie's premises of VL as a theory, but as a guiding program comprising some suggested factors and assumptions that empirical research proved successful for learners' improvement. This is done while taking contextual variables into consideration. If Hattie moved from "everything seems to work", to "what works best" (Arnold, 2011), the underlying assumption by which the current study is guided combines these two statements in light of context as a key word: *Everything works best in its appropriate context.*

2.3. Incorporating visible learning principles to foster oral fluency

To the best of the current researchers' knowledge, no previous studies attempted to adopt the overall model of visible learning as presented by John Hattie (2009) in relation to the development of oral fluency. However, several studies implemented discrete principles of visible learning, or recommended their use, to enhance learners' oral proficiency, as it will be discussed below.

Different types of *formative feedback*, defined by Hattie as highly influential in successful learning, were also reported to be effective in enhancing learners' oral fluency. Lopez, Becerra & Ramirez-Avila (2021) concluded that opportunities for feedback among participants contributed to the development of oral fluency skills. In the same vein, Ibrahim (2020) argued that providing feedback to peers was a vital element of promoting students' oral fluency, and recommended utilizing various types of teacher, peer and self assessments to increase learner's self confidence and foster their metacognitive abilities, which leads to oral proficiency development.

Focus on *self-directed and monitoring strategies*, a basic dimension of visible learning, was also recommended by researchers. Ghasemi & Mozaheb (2021) argued that the oral proficiency development techniques they applied in their study helped students to plan and monitor their activities which in turn led to automaticity and transferable effects of oral fluency. Similarly,

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Rossiter, Derwing, Manimtim and Thomson (2010) explained that instructors could raise their students' awareness of strategies which empower fluency, such as pause fillers, formulaic sequences and discourse markers which help students to monitor their performance. Preparing well to get ready for the oral fluency task is another monitoring strategy contributing to successful speaking (Ashour, 2014; Kellem, 2009).

Cognitive development is another visible learning principle that was proven effective in many studies. Lopez, Becerra & Ramirez-Avila (2021), for example, asserted the importance of integrating learners' previous knowledge to that of their classmates so as to enhance their understanding of the content of the oral fluency tasks. Other activities that improve cognitive development, such as problem-solving, discussions, role-play, describing pictures, and repetition tasks were also proven effective or suggested (e.g. Ibrahim, 2020; Kellem, 2009).

Hattie also stressed *explicit instruction* as a visible learning component that helps students to be aware of success criteria. Explicit instruction and clarity of learning objectives were recommended by empirical research (e.g. Desoky, 2021; Rossiter, Derwing, Manimtim and Thomson, 2010). When students understand how learning looks like and what success means, they are able to get engaged in *reflection*, which is a key element of visible learning. Reflection is also essential to develop oral fluency as investigated and confirmed by Abd Al. Galil (2019) and Iswara, Azib & Rochsantiningish (2012).

Deliberate practice is also a characteristic of visible learning. While practice may be limited to repetitive skill and drills, deliberate practice requires much attention on the task and having someone observing and giving feedback during the practice. For this to happen, students should be challenged by accelerating tasks and they should be aware of the purpose of these tasks. Deliberate practice will then lead to automatic processing, a key feature of

fluency, which in turn leads to fluent transfer to other tasks (Davidlang, 2013; Simensen, 2010; Elsadek, 2020).

Finally, visible learning advocates *good teacher-learner relationships* by which the learning environment is non-threatening, reassuring and supportive. In such an environment, collaboration is reinforced, and students' mistakes are tolerated and perceived as a means of advancement. The same idea was suggested by researchers to enhance oral fluency development. Desoky (2021), Ibrahim (2020), Abd Al Galil (2019) and Gorkaltseva, Gozhin & Nagel (2015) concluded that fostering a positive, collaborative environment contributed to boosting oral fluency and increasing students' motivation.

Good teacher-learner relationship is of particular importance, particularly when considering the results of Ngoc & Dung's (2020) study that investigated the problems and factors affecting learners' speaking fluency. Results of the study revealed that students' problems of oral fluency, especially the fear of making mistakes, were mostly attributed to the group of affective factors. The researchers recommended teachers to provide positive and helpful feedback, as well as to adopt a friendly and cooperative attitude that encourages students to participate willingly and comfortably without fears.

Since teachers should be "very careful in listening to the local context", and keen to evaluate and reflect on their own and their learners' instructional experience to get insights of the teaching/ learning practices that work best in a particular situation taking all contextual variables into consideration, the need for the current study appeared (John Hattie, in an interview reported by Knudsen, 2017, p.255)

3. Method

This section covers the methods adopted in the current study, including the design, participants and instruments of the study.

3.1. Design of the study

This study employed the one- group pretest-posttest design along with a mixed research approach incorporating both

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quantitative and qualitative methodologies. The one-group pretest-posttest design was selected because the aim was to detect the developments and changes that occurred in the performance of the same students before and after the program, and therefore, the participants were compared to themselves, not to other students represented by a control group.

As for the mixed research approach, quantitative data was driven from results of the pre/post oral fluency test. Qualitative data, on the other hand, was elicited from the analysis of participants' satisfaction questionnaires. Analysis of data meant to explore how far this program satisfied their needs and interests.

3.2. Participants

The participants of the current research were thirty (n=30) freshmen enrolled in the 1st year at the STEM teachers' preparation program at the Faculty of Education, Ain Shams University, in the 1st semester, the academic year 2021-2022. Their majors were as follows: (13) students specialized in Chemistry, (12) students specialized in Biology, (3) students specialized in Mathematics and (2) students specialized in Physics. They studied together as one group, since their courses are of an interdisciplinary nature, and their English course was integrated into the other courses. All the participants were graduated from Egyptian high schools, with at least 10 years of studying English experience. The students' age was about 18-19 years old.

3.3. Instruments

The following three instruments were used. They are an oral fluency test, an oral fluency rubric and a satisfaction questionnaire.

3.3.1. The Oral Fluency Test

Purpose

The Oral Fluency Test was a pre/post speaking test that aimed at testing the participants' oral fluency skills before and after the proposed instruction. It was compiled and adapted from five models of IELTS online speaking tests.

Description

It consisted of three parts. The first part handled three points of different topics for discussion, and they encouraged the participants to express their personal opinions and preferences; the second part required each participant to speak freely about an important event that happened in his/her life. They were given 1-2 minutes to think of the topic before speaking and they were allowed to write notes of the important points they wished to speak about. This part was concluded by a couple of follow-up questions. The final part of the test included three general questions about the relationship between education and work in Egypt. The questions were easier at the beginning to warm the participants up and get them ready for speaking. The questions got harder gradually, requiring the participants to develop a longer and more detailed speech.

The test lasted for 14 minutes on average during which the participants were interviewed by two examiners who asked them the questions and evaluated their responses. Students' speech was audio recorded for easier scoring later. The inter-rater reliability was checked, and the reliability index was (.83); which indicates high reliability.

Piloting the test

The test was administered before teaching the oral fluency program to a group of 30 STEM students who did not participate in the study. The test was piloted for the following purposes:

- Determine the appropriate duration of the test
- Establishing the reliability of the test;
- Ensuring the validity of the test; and,
- Checking the suitability of the test to the students in regard to the clarity of the questions and the appropriateness of their phrasing.

The time of the test: the timing of the test was calculated through calculating the time spent by each student in the test

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followed by calculating the mean timings for the entire sample. At the end, the timing of the test was between 14 minutes.

Internal consistency validity: the validity of the different subscales of the test was determined through calculating the correlation between the score of each subscale and the overall test score. The correlations between students' overall test scores and their scores in each single skill were calculated. Table (1) shows correlation values.

Table 1

Values of correlations between the score of each individual skill and the overall test score

Skill	Correlation
Comprehensibility of content	0.73**
Proper expression	0.69**
Accuracy	0.71**
Smoothness of articulation	0.74**
Speech rate	0.68**
Pause filler	0.68**

**significant at 0.01 level, where $n = 30$, and it is significant at 0.01 when the correlation coefficient ≥ 0.45 .

The table above shows that correlations between the overall test score and the sub score of each skill are high, thus indicating a high test validity.

Reliability of the test

Reliability of the test was calculated using Cronbach's Alpha. Its value was (0.89), an appropriate alpha coefficient suggesting that the items have relatively high internal consistency. Therefore, the test is characterized by high stability and consistency.

Table 2
Test reliability coefficient

Cronbach's Alpha	N of Items
.85	6

Content Validity

The test was presented to jury members who specialize in teaching English as a foreign language in order to determine to what extent the content of the questions included in the test is appropriately selected and phrased to assess students' oral fluency skills. The jury members were kindly required to state their opinions and suggest any recommendations or modifications which could improve the proposed test with regard to the content and phrasing of its questions.

Scoring the test

The students' responses to the oral fluency test were scored in light of the Oral Fluency Rubric designed by the researchers. Students' responses were carefully analyzed and whenever evidence of manipulating a particular skill was detected, the appropriate corresponding score was recorded according to the descriptors illustrated in the rubric, then all the scores were calculated for a total. The total final full mark for all the questions was (120) marks and the lowest was (30) marks.

3.3.2. The Oral Fluency Rubric

The oral fluency rubric was an analytical rubric designed by the researchers to score the participants' responses to the test. The identified oral fluency skills were used to determine the six evaluation criteria which represented the desired standards or expectations of students' performances (i.e., Comprehensibility of Content, Proper Expression, Accuracy, Smoothness of Articulation, Speech Rate and Pause Filler). To determine the degree to which a student's performance met the criteria of the task, four levels of

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descriptors which differentiate several levels of performance (i.e., Fair, Good, Very good and Excellent) were specified and described in a qualitative and/ or quantitative manners. The score was calculated by multiplying the level number by the number in parentheses under each criterion. The highest possible score was 120 points.

Content validity of the rubric was confirmed by consulting a group of TEFL jury members who were asked to validate the content of the six categories representing the oral fluency outcomes sought to be measured in students' speech.

3.3.3. The participants' satisfaction questionnaire

Aim and description

This is a questionnaire that the participants were required to fill in at the end of the instructional program as some sort of reflection on their instructional experiences during the program.

The questionnaire aimed at assessing how far the participants have been satisfied with the instructional program they received to develop their oral fluency skills. It consists of (8) questions which cover most aspects of the instructional program, as they give the participants the chance to reflect on the activities, what they liked/ disliked and how this educational experience has affected them.

The questionnaire consists of 5 open-ended questions, and the other 3 questions were followed by a four- point scale corresponding to different degrees of satisfaction (i.e., Very satisfied, Moderately satisfied, Slightly satisfied and Not satisfied). Students were given the freedom to respond to these questions in Arabic so as to avoid any difficulty which may result from inadequate language levels.

3.4. The proposed Visible Learning program

Aim and/ or objectives

The overall aim of the program was to develop the participants' oral fluency skills. In doing so, the following objectives were also sought:

- Involve students in their learning through explicit instruction, so that they become their own teachers and can understand how to optimize success opportunities.
- Consider students' expectations and raising their self-confidence.
- Activate students' prior knowledge.
- Use self-monitoring and self-assessment strategies, which leads to life-long learning.
- Exchange formative feedback on teaching and learning practices throughout the program.

Instructional materials

In the beginning of each session, the participants were given the Student's Handouts they would need in the session. Some videos were required in some sessions.

Implementation of the program

Students were informed with the aim of the program from the very beginning. They were briefly familiarized with the procedures that should be followed to understand, plan for and get engaged in the oral fluency activities. All the activities were based on the implications of John Hattie's framework of VL. The topics of these activities were revolving around Egypt's Grand Challenges, as these topics represented the interdisciplinary content the participants have been studying in their major programs.

John Hattie's research on VL has resulted in the identification of some principles of successful school teaching and learning. Careful review and distillation of this research gleaned the following implications that formed the base of the instructional program adopted by the current researchers.

Get students involved in their own learning

1. Understand how students see learning and how they think it is, because their notions may sometimes contrast what is really required or what is important.
2. Make learning explicit: Talk about, explain, and focus on success criteria rather than learning objectives.

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3. Encourage students to collaborate: VL occurs when there are active, passionate individuals engaging, participating, and collaborating in the act of learning.

Consider Students' self-reported grades

4. Let students talk about their learning. Discuss their expectations and understandings of their own levels, their strengths and weaknesses.
5. Build self-confidence through creating an optimal classroom environment for learning, in which errors are accepted as part of learning.

Consider learners' Piagetian development

6. Activate students' prior knowledge: introduce new content and integrate it with students' prior knowledge and adapt lessons to their needs.
7. Accelerate: move higher than what they know and challenge their abilities.

Encourage students to become their own teachers

8. Teach self-monitoring and self-assessment strategies.
9. Promote students to give you feedback on their progress and on how they perceive your teaching.

Provide formative assessment

10. Always provide and receive feedback on the success of your and your students' efforts.
11. Adjust teaching according to students' needs elicited by the continuous feedback.

The previously mentioned implications were transcribed to some procedures which intended to develop the participants' oral fluency. The participants were instructed to do the following:

- Planning for the conversation/ speaking tasks. This helped students to understand the purpose of the speaking task and activate their prior knowledge of the topic.
- Studying new words/ concepts/ content before speaking. The purpose of this procedure was to decrease pronunciation mistakes and choice of inappropriate words and expressions.
- Setting priorities;

- Arranging ideas; and,
- Monitoring one's performance, which served as self-monitoring strategies the purpose of which was to decrease students' cognitive load, help students avoid hesitations and pauses and enhance flow and consistency of ideas.
- Learning compensation strategies to overcome their speaking disfluencies and monitor their performance, which lessened breaks, hesitations, prolongations and repetitions.

Duration of the program

The program lasted for (8) weeks in the 1st semester of the academic year 2021-2022. The research group was instructed (10) sessions, two hours each, during which they engaged in various activities enhancing them to speak fluently.

4. Data Collection and Procedures

The current research was conducted following the procedures below:

- The pre oral fluency test was administered to the participants through holding an 11-14-minute-long interview with each participant individually. This procedure took place in two successive days; the interviews were audio recorded.
- The Oral Fluency program was taught.
- The post test was administered to the participants.
- The participants were asked to respond to the satisfaction questionnaire.

5. Findings of the study

The SPSS (version 21) statistical program was used to analyze the quantitative data obtained from the test. Qualitative analysis was also used to interpret students' responses to the students' satisfaction questionnaire.

Statistical treatment of the results of the pre-post oral fluency tests

T-test for dependent groups (Repeated Measures t-test) was used for the statistical analysis to compare the students' mean scores in the

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pre and the post administrations of the oral fluency test with regard to the overall score and the score of each single oral fluency skill.

Results of the study will be reported in terms of the study hypotheses.

The first hypothesis stated that "There would be a statistically significant difference between the mean scores of the research group students in the oral fluency pre and post test administrations with regard to the development of their overall oral fluency skills favoring the post test scores".

In order to examine this hypothesis, the results of the pre and post administrations of the oral fluency test as a whole were analyzed in light of the difference between the students' overall mean scores in the pre and post administrations of the oral fluency test. These results are clarified in Table (3).

Table 3

T-test results of the participants' mean scores in the pre and the post administrations of the oral fluency test as a whole (Where N=30, and degree of freedom=29).

Skills	mean		Std. Deviation		T- test value	Sig.	Effect size (η^2)
	Pre	post	pre	post			
Oral fluency as a whole	41	87.17	6.87	9.8	21.991	0.000	0.94

Table (3) shows that the students' overall mean scores in the post administration of the oral fluency test were higher than their mean scores in the pre administration. This indicates that students' oral fluency developed after implementing the proposed program. The Std. Deviation of the students' overall scores in the post administration of the test was less than it was in the pre application, which indicates that the students' oral fluency levels became close after teaching the proposed instructional program. The significance level of the overall score of oral fluency is less than (0.01), which indicates that there is a statistically significant difference between the students' overall mean scores in the pre and post administrations of the test at the significance level of 0.01, in favor of the posttest.

Thus, the first hypothesis is verified, and it can be concluded that the students' oral fluency skills, in general, developed due to the proposed instructional program which was effective at the significance level of (0. 01).

The effect size was calculated through comparing the results of the values of T. calculated to the results of the students in each skill of the test. That was done using Etta squared, where

$$\eta^2 = \frac{t^2}{t^2 + df}$$

As (η^2) represents the value of Etta- squared for calculating the effects size.

As (t) represents the value of " T"

As (df) represents the degree of freedom.

Table 4

The referential framework for interpreting the effect size values.

Effect size value	Interpretation
$(\eta^2) < 0.010$	Weak effect size
$0.059 > (\eta^2) \geq 0.010$	Small effect size
$0.138 > (\eta^2) \geq 0.059$	Medium effect size
$0.232 > (\eta^2) \geq 0.138$	Large effect size
$(\eta^2) \geq 0.232$	Very large effect size

The previous table shows that the effect size value for the overall score of the oral fluency skills (which was found to be 0.94) is bigger than (0.232). This means that the effect size of the proposed program is very large.

- **The second hypothesis states:** "There would be a statistically significant difference between the mean scores of the research group students in the oral fluency pre and post test administrations in developing each single oral fluency skill favoring their post test scores".

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In order to verify the second hypothesis, the results of the pre and post oral fluency test administrations were analyzed to determine the significance of students' mean scores differences in each skill before and after implementing the instructional program. Table (5) shows the results.

Table 5

T-test results of the participants' mean scores in the pre and the post administrations in each single skill of the oral fluency test (Where N=30, and degree of freedom=29).

Skills	mean		Std. Deviation		T- test value	Sig.	Effect size (η^2)
	pre	post	pre	post			
Comprehensibility of content	9.5	13.5	3.79	4.58	5.442	0.000	0.51
Proper expression	6.67	13.33	2.4	3.03	13.359	0.000	0.86
Accuracy	6.5	15.17	2.33	3.59	11.470	0.000	0.82
Smoothness of articulation	6.17	13.67	2.15	2.6	11.238	0.000	0.81
Speech rate	6.33	14.5	2.25	2.01	16.089	0.000	0.90
Pause filler	5.83	17	1.9	3.37	13.627	0.000	0.86

The previous table shows that the mean scores of the research group students in the post application of each oral fluency skill is higher than that of the pre application which indicates that their oral fluency performance levels have been developed in all the oral fluency skills due to the proposed instructional program at the significance level of 0.01 in favor of the post application. Thus, the second hypothesis is verified.

The previous table also shows that the effect size value for the separate oral fluency skills is bigger than (0.232). This means that the effect size of the proposed program is very large, and that the program was significantly effective in developing the students' oral fluency skills.

6. Discussion

6.1. Discussion of the quantitative findings

This part is a discussion of the findings of the study which were clarified above. Statistical analysis of the results showed that the first and the second hypotheses were verified, indicating that the proposed instructional program was effective in developing the participants' overall oral proficiency performance and it was also effective in developing their performance in each separate skill of oral fluency. This may be due to the reasons below:

The main purpose of the instructional program, i.e., enhancing students' oral proficiency, was an essential need of all the participants. Since they basically focused on English reading and writing in their pre-college educational stages, they did not have the chance to practice and develop their oral skills and they were enthusiastic to fulfill their needs through getting engaged in the oral proficiency activities.

The topics discussed in the oral fluency activities were derived from the students' academic courses and capstone projects which motivated them and fostered their participations.

The basic principles of visible learning adopted in the program were very helpful. First, the provision of teacher's and peer's formative feedback enabled the students to realize their problems and optimize their success opportunities. Second, giving the students the chance to self-evaluate their performance helped them to increase their self-awareness and reflect on their practices and needs. Third, learning monitoring and self-directing strategies resulted in lessening the cognitive load exerted on students' minds by the task demands, thus helping them to manipulate several sub skills concurrently and enhance their oral fluency. Fourth, activating students' prior knowledge contributed to their Piagetian development and challenged their expectations which paved the way for learning actively. Fifth, encouraging students in a supportive and anxiety-reduced environment helped them to gain self-confidence and feel less pressurized to participate. Finally, teaching compensation strategies, such as using effective pause

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fillers, reassured the students that they have alternatives when their fluency is hindered, so they were motivated to get involved in the activities without fear of failure.

The findings of the current study go in agreement with the findings of other studies. Abd Al Galil (2019), for example, asserted that providing supportive classroom environment is essential to the development of students' oral proficiency. Desoky (2021), on the other hand, argued that receiving feedback and collaborative work assisted participants to develop their oral fluency skills without fear of making mistakes. In the same vein, Hammam (2020) recommended that encouraging students to be self-learners will have positive effects on their speaking fluency.

6.2. Analysis of the Participants' Satisfaction Questionnaire

This part is a qualitative analysis of the students' responses in the Participants' Satisfaction Questionnaires.

The first and second questions were about what the students liked most and thought they benefited from the program. Some of what they stated in this respect was as follows: (Some of their statements are translated from Arabic, and others are kept as they were written in English).

- This program helped me to learn that I should never speak before thinking carefully of what I would say.
- I learnt how to plan for speaking and study key words in advance. These are points I didn't pay attention to before.
- I benefited organizing my thoughts.
- What I liked so much is the words I use to start my speaking. It encouraged me to start.
- What I liked most was the feedback I received from you and from my friends. That helped me a lot to correct my mistakes and improve my speaking.
- We got encouraged to discuss topics and speak with one another in English, which developed our speaking skills. Sometimes I

changed my point of view and reconsidered my reasons as a result of this discussion.

- I felt free. You make us calm all of the time and not angry when we say some mistakes. I didn't feel stress.
- The pause fillers were very good because I didn't know what to say sometimes.
- I liked speaking to improve my performance and to train.
- It was fun and easy because I didn't worry about mistakes, and I knew I'd learn about the topic before speaking. So, it was not difficult.
- I liked that I found solutions for the speaking problems I have.

As it may be noticed, the participants' benefits comprised the following. First, they became more aware of themselves and their needs (e.g., planning, organizing thoughts, learning how to start the conversation, benefiting from working in groups and receiving feedback). This means that the program enabled them to develop metacognitive awareness by which they could identify their learning problems and find ways to overcome them. Second, they had the chance to practice speaking fluently without stress, which encouraged them to speak and participate freely without worrying about making mistakes. This sheds light on the importance of providing supportive, anxiety-reduced learning environment, a main principle of visible learning and a prerequisite for oral fluency enhancement. Third, the feedback they received from teacher and peers was very helpful for them. Finally, the compensative strategies they learnt (e.g. conversation starters and pause fillers, as they stated) helped them to manage their performance, and consequently build self-confidence, which is another goal of visible learning and an essential catalyst for oral fluency. This was also obvious in the note one of the participants stated about "finding solutions for my speaking problems", which shows how she was able to self-evaluate her performance and handle the challenges she faced.

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What students disliked was the big number of new words and information they had to study in each topic. This may be due to the fact that they were still 1st year students and they haven't yet acquired an adequate repertoire of vocabulary to cater for their study demands.

The third question was related to the participants' opinions about group work versus individual work. Their responses showed that about 19 students preferred group activities, in contrast with 6 students who liked individual activities more and (5) students who liked mixed activities. Students who preferred group activities gave various reasons for their preference. They stated:

- "I prefer group because we can gain many useful things from each other".
- "My friends correct my mistakes. This is better. When I am alone, I cannot know my mistakes".
- "When I don't know something, I can ask my friends. I do not feel worried".

On the other hand, those who preferred individual work mentioned the following reasons:

- "In group I can't concentrate; I focus more when I work alone".
- "Working alone makes me feel free; sometimes I feel shy to say something in a group".

Favoring group activities was a good point that would encourage students to communicate orally and learn from one another. It should not be ignored, however, that some other students are introvert by nature, and they may feel uncomfortable, shy, distracted, or stressed when they work in a group. Some students may also avoid speaking or participating in a group for fear of being criticized or of being unable to carry out the required tasks. The teacher's responsibility here is to accept all types of students and vary individual and group activities in a supportive atmosphere which encourages all learners to participate without worries.

The most liked oral fluency activities chosen by the students were "describing and discussing a picture" and "small group

discussions”, perhaps because these activities were the easiest to apply since they did not require many procedures or much preparation/ planning as the other activities did. This finding suggests that when implementing speaking or oral fluency instruction, teachers should start small so that students would not feel frustrated or overwhelmed. As students progress, they may be introduced to more demanding tasks.

The 5th question required the participants to state their suggestions for improving the oral fluency program in case it would be implemented again. Although the participants were expected to reflect on the advantages and disadvantages of the program in this point, they rather suggested adding more skills to develop in the program! Most of them recommended teaching grammar, and some of them expressed their wish to learn terminology related to their majors.

The participants’ suggestions highlight their desire for instructional programs that fulfill their needs and satisfy their interests. They are aware of what they want and that was why they suggested adding instruction that would improve their skills in grammar and terminology. Some of them, however, suggested organizing a conversation course that they can join to develop their oral fluency more. They said that their major courses focus on academic content and skills all of the time, and they never care to evaluate how correctly or fluently they speak. They also suggested to have this program in the summer vacation because they were very busy with their academic subjects.

Finally, students' responses showed that the oral fluency program was generally satisfactory for most of them. They also appreciated the teaching/ learning activities of the program and believed they have contributed to their oral proficiency development. This may be elicited from some of their statements such as the following:

- I like I had the chance to join a program which I really need.
- Thank you so much for your understanding and support.

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- I hope this program would be taught throughout the 4 years of our study in the Faculty of Education.

7. Conclusion

Based on the previously discussed findings and the quantitative and qualitative analyses of data, it can be concluded that the proposed program which is based on John Hattie's implications of Visible Learning was effective in developing STEM students' oral proficiency. The program helped the participants to develop their metacognitive awareness, by which they were able to manage their performance and monitor their progress. They became their own teachers in that they learnt self-evaluation and reflections strategies which helped them to identify the difficulties they have and overcome them. The participants were also satisfied with the instructional program, as they expressed in their satisfaction questionnaires.

8. Recommendations

Based on the findings of the study, the following recommendations may be of importance to the development and implementation of oral fluency and visible learning programs:

- Visible learning can be incorporated in study programs and instructional materials as it proved effective in enhancing students' speaking and oral fluency skills in addition to fostering their self-management and monitoring strategies.
- Since teachers are changing agents who contribute to students' progress, teachers should be trained on how to adopt visible learning practices and create a supportive, instructional environments that raises students' expectations.
- Learners should be encouraged to reflect on and self-evaluate themselves, which helps them gain insights into themselves as language learners and their language learning process. This considerably contributes to building learners' confidence and autonomy.

- Students should be taught compensation strategies which enable them to handle the problems that limit their oral fluency.
 - Training students on how to plan for the instructional tasks lessen the cognitive burdens on their minds and motivate them to be actively engaged in the task.
- 9. Suggestions for further research**
- Researchers may further investigate the effectiveness of visible learning on other language areas, such as writing and reading.
 - Further research may adopt the principles of visible learning at other educational stages.
 - Teacher development programs may consider making use of visible learning practices to encourage teachers to be changing agents.
 - Further research may investigate the effect of teacher's feedback on students' language development.

References

- Abd Al Galil, M. (2019). *The Effect of Using Reflective Listening on Developing EFL Adults' Oral Fluency*, An M.A. thesis, Faculty of Education, Ain Shams University, Egypt. Available at: <http://files.eric.ed.gov/fulltext/ED592977.pdf>
- American Council on the Teaching of Foreign Languages. (2012). ACTFL proficiency guidelines 2012. Retrieved from: <http://actflproficiencyguidelines2012.org/>
- Arnold, I. (2011). Book Review, John Hattie: Visible learning: A synthesis of over 800 meta-analyses relating to achievement, *Int Rev Educ*, 57:219–221, DOI 10.1007/s11159-011-9198-8.
- Ashour, J. M. (2014). *The Effect of Using a Videoconferencing-Based Strategy on UNRWA 9th Graders' English Speaking Skills and their Attitudes towards Speaking*. Unpublished Master Thesis, The Islamic University of Gaza.
- Bergeron, P. (2017). LYSANNE RIVARD (trans.). How to engage in pseudoscience with real data: A criticism of John Hattie's visible learning from the perspective of a statistician, , *McGILL JOURNAL OF EDUCATION*, 52, 237-246.
- Bettiol, C. (2017). *Hattie's Greatest Effect size: Self Reported Grades / Student Expectations – How we can apply it in the classroom*. Retrieved from: <https://chrishettiol.wordpress.com/2017/04/01/hatties-greatest-effect-size-self-reported-grades-student-expectations-how-we-can-apply-it-in-the-classroom/>. Retrieved in November, 2021.
- Bohn, H. (2015). Assessing spoken EFL without a common rating scale: Norwegian EFL teachers' conceptions of construct. *Sage Open*, 5(4), 1-12. <https://doi.org/10.1177/2158244015621956>.
- Boonkit, K. (2010). Enhancing the development of speaking skills for non-native speakers of English. *Procedia-social and Behavioral Sciences*, 2(2), 1305-1309.
- Boers, F., Eyckmans, J., Kappel, J., Stengers, H., & Demecheleer, M. (2006). Formulaic sequences and perceived oral proficiency: Putting a lexical approach to the test. *Language Teaching Research*, 10, 245–261.
- Bygate, M. (2001). Effects of task repetition on the structure and control of oral language. In M. Bygate, P. Skehan, & M. Swain (Eds.),

- Researching pedagogic tasks: Second language learning, teaching and testing (pp. 23–48). Harlow, UK: Pearson Education.
- Colby, H. E. (2013). *How to be a business English ace* (1st ed.). Pennsauken, NJ: BookBaby.
- Cunningham, B., & Tanner, L. (2021). *A Mixed-Methods Study on the Experiences and Beliefs of Teachers in Professional Development for the Implementation of Visible Learning* [Augusta University].
- David-Lang, J. (2013). Summary of Visible Learning for Teachers: Maximizing Impact on Learning By John Hattie, *The main idea* (current education book summaries), url <http://www.tdschools.org/wp-content/uploads/2013/08/The+Main+Idea+-+Visible+Learning+for+Teachers+-+April+2013.pdf>
- Davies, P., & Pearse, E. (2014). *Success in English teaching*. Oxford, England: Oxford University Press.
- De Jong, N., & Perfetti, C. (2011). Fluency training in the ESL classroom: An experimental study of fluency development and proceduralization. *Language Learning*, 62; 533-568.
- Desoky, H. (2021). *The Effect of a Proposed On-Job Task-Based Program in Developing the English Language Fluency for Civil Aviation Personnel*. Unpublished Ph. D thesis, Faculty of Education, Ain Shams University, Egypt.
- Educational Testing Service. (2013). TOEFL iBT test. Retrieved from: <http://www.ets.org/toefl>.
- Everard, M. (2015). *Assessing oral proficiency levels of second-year students of English at Radboud University*.
- Elsadek, G. (2020). Using Electronic Project Based Learning for Developing EFL Speaking Fluency among Faculty of Education Students. *Journal of Faculty of Education*, Benha University, 121 (5), 1-22.
- Farag, D.Z. (2017). *The Effects of an interactive multimedia Program in developing EFL oral communicative skills among secondary school students*. Unpublished MA Thesis, Faculty of Education, Minoufiya University, Egypt.
- Fisher, D., & Frey, N. (2016). Making learning visible, reflecting on John Hattie's ideology, new book, and upcoming conference session, *Literacy Today*, 12-13.

The Effect of a Proposed program Based on the Implications of John Hattie's Visible Learning on College Students' English Oral Fluency

- Fisher, D., Frey, N., Hattie, J. (2016). *Visible learning for literacy, grades K-12: Implementing the practices that work best to accelerate students learning*. Thousand Oaks, California: Corwin/A Sage Company, 2016, 190 páginas.
- Fulcher, G. (2004). Deluded by Artifices? The common European framework and harmonization. *Language Assessment Quarterly*, 1(4), 253-266. doi:10.1207/s15434311laq0104_4.
- Gad, D.A. (2018). *The effectiveness of a program based on Dogme approach in developing governmental language secondary school students' EFL listening and speaking skills*. Unpublished PhD Thesis, Faculty of Education, Minoufiya University, Egypt.
- Gatbonton, E., & Segalowitz, N. (2005). Rethinking communicative language teaching: A focus on access to fluency. *The Canadian Modern Language Review*, 61, 325–353.
- Ghasemi, A., & Mozaheb, M. (2021). Developing EFL Learners' Speaking Fluency: Use of Practical Techniques, *MEXTESOL Journal*, 45 (2), 1-13.
- Goh, C., & Burns, A. (2012). *Teaching speaking: A holistic approach*. New York: Cambridge University Press.
- Gorkaltseva, E., Gozhin, A., & Nagel, O. (2015). Enhancing Oral Fluency as a Linguodidactic Issue, *Procedia - Social and Behavioral Sciences*, 206, 141 – 147.
- Hammam, D. (2020). The Effectiveness of the Mobile Learning in Developing Oral Fluency Among preparatory School Students. *Journal of the Faculty of Education, Beni Suef University*, 17 (3), 600-625.
- Hattie, J. (2009). *Visible learning: A synthesis of 800+ meta-analyses on achievement*. Oxford, UK: Routledge.
- Hattie, J.A.C. & Yates, G. (2014). *Visible Learning and the Science of how we Learn*. Routledge, UK.
- Hattie, J.A.C. (2012). *Visible learning for teachers. Maximizing impact on achievement*. Oxford, UK: Routledge.
- Higgins, S., & Simpson, A. (2011) Visible Learning: A Synthesis of over 800 Meta-Analyses Relating to Achievement. By John A.C. Hattie, *British Journal of Educational Studies*, 59 (2), 197-201, DOI: 10.1080/00071005.2011.584660.

- Ibrahim, M. (2020). Using E-portfolio to Develop EFL Fluency Skills among Secondary School Students. *Journal of Faculty of Education, Benha University*, 31 (122) (2), 57-84.
- Iswara, A., Azib, A., & Rochsantiningsih, D. (2012). *Improving students' speaking fluency through the implementation of trivia-based activity in university students*, *English Education*, 1 (1), 1-17.
- Kahng, J. (2020). [Explaining second language utterance fluency: Contribution of cognitive fluency and first language, *Applied Psycholinguistics*, 41 , \(2\) ,457 – 480.](#)
- Kellem, H. (2009). Principles for developing oral fluency in the classroom, *The Language Teacher*, 33 (1), 9-11.
- Kirby, J. (2013). [What happens when cognitive science meets visible learning?](#), Retrieved from <https://pragmaticreform.wordpress.com/2013/10/26/science-of-learning/>. Retrieved in December, 2021.
- Klomjit, S. (2013). Using Oral Reading to Self to Improve Oral Fluency of English Language Learners.
- Knudsen, H. (2017). John Hattie: I'm a statistician, I'm not a theoretician, *Nordic Journal of Studies in Educational Policy*, 3 (3), 253-261, DOI: 10.1080/20020317.2017.1415048.
- Krashen, S. (2013). *Second Language Acquisition: Theory, Application and Some Conjectures*. Mexico City: Cambridge University Press.
- Leclercq, P., Edmonds, A., & Hilton, H. (2014). *Measuring L2 proficiency: Perspectives from SLA*. Bristol, England: Multilingual Matters.
- Lopez, J; Becerra, A & Ramirez-Avila, M. (2021). EFL Speaking Fluency through Authentic Oral Production, *Journal of Foreign Language Teaching and Learning*, 6 (1), 37-55.
- Mahrous, S.A. (2019). Using Drama Techniques for Developing EFL Speaking Skills and Reducing Speaking Anxiety among Secondary Stage Students. *The Scientific Journal of the Faculty of Education, Asiat University*, 35 (11), 54-89.
- Mcknight, L & Whitburn, B. (2020). Seven reasons to question the hegemony of visible learning, *Discourse: Studies in the Cultural Politics of Education*, 41 (1), 32-44, <https://doi.org/10.1080/01596306.2018.1480474>.

The Effect of a Proposed program Based on the Implications of John Hattie's Visible Learning on College Students' English Oral Fluency

- Naguib, S. (2020). Promoting Oral Fluency of General Diploma Students through Oral Reading to Self and Narrow Reading, *Journal of Scientific Research in Education*, 21(10), 645-665.
- Ngoc, d & Dung, T. (2020). Key factors influencing learners' oral fluency in English speaking classes: A case at a public university in Vietnam, *VNU Journal of Foreign Studies*, 36 (6), 93-108.
- O' Connor, P. (2020). Visible Learning and whole language: revisiting the 'garbage in, garbage out' problem, *Australian Journal of Language and Literacy*, 43 (2), 141-151.
- Pinon, R., & Haydon, J. (2010). *The benefits of the English language for individuals and societies: Quantitative indicators from Cameroon, Nigeria, Rwanda, Bangladesh and Pakistan : A custom report*. London, England: Euromonitor International.
- Richards, J. C. (2002). *Longman Language Teaching and Applied Linguistics*. Pearson Education.
- Rossiter, M., Derwing, T., Manimtim, L., & Thomson, R. (2010). Oral Fluency: The Neglected Component in the Communicative Language Classroom, *The Canadian Modern Language Review*, La Revue canadienne des langues vivantes, 66, (4), 583–606.
- Rupp, A. and Leighton, J. (2017). *The Handbook of Cognition and Assessment, Frameworks, Methodologies and Applications*, Wiley-Blackwell.
- Sari, P. (2017). Using Vlog in the YouTube Channel as a Means to Improve Students' Motivation and Confidence to Speak English in Intermediate 1 Level of LB-LIA Jambi. *International Journal of Language Teaching and Education*, 1(1), 38-44. <https://doi.org/10.22437/ijolte.v1i1.4596>
- Segalowitz, N. (2010). *Cognitive Bases of Second Language Fluency*. New York: Routledge.
- Simensen, A. (2010). Fluency: an aim in teaching and a criterion in assessment, *Acta Didactica Norge*, 4 (1), 1-13.
- Snook, I., O'Neill, J., Clark, J., O'Neill, A., & Openshaw, R. (2009). Commentary Invisible Learnings? A Commentary on John Hattie's book: Visible Learning: A synthesis of over 800 meta-analyses relating to achievement, *New Zealand Journal of Educational Studies*; Heidelberg, 44 (1), 93-106.

- Song, S. & Li, D. (2020) The Predicting Power of Cognitive Fluency for the Development of Utterance Fluency in Simultaneous Interpreting. *Front. Psychol*, 11:1864. doi: 10.3389/fpsyg.2020.01864
- Suzuki, S., Kormos, J., & Uchihara, T. (2021). The Relationship Between Utterance and Perceived Fluency: A Meta-Analysis of Correlational Studies. *Modern Language Journal*, 105 (2), 1-29. DOI:[10.1111/modl.12706](https://doi.org/10.1111/modl.12706)
- Terhart, E. (2011). Review essay: Has John Hattie really found the holy grail of research on teaching? An extended review of Visible Learning, *Curriculum Studies*, 43, (3), 425–438. Routledge, Taylor & Francis Group.
- Wecker, C., Vogel, F., & Hetmanek, A. (2016). Visionary and impressive-but also reliable? A critique of the methodology of Hattie's visible learning, *Zeitschrift fur Erziehungswissenschaft*, 20(1), 21–40.