



A Program Based on Some Habits of Mind to Develop Secondary Stage Students English Language Speaking Skills

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Abstract

The present research investigated the effectiveness of implementing a program based on some habits of mind (HoMs) on improving the English speaking skills of secondary-stage students in technology-enhanced classrooms. This research adopted the quasi-experimental design. The subjects of this research were (50) participants, they were selected randomly from first-year secondary stage students at Port Said Military Secondary School for boys. They were divided into two groups (control and experimental). To determine the most required EFL speaking skills to be developed, a questionnaire containing a list of such skills with their performance sub-skills was designed for TEFL specialists. Based on the selected skills, the researchers designed a pre-post speaking test and a scoring rubric for collecting data. Results revealed that the program based on some HoMs was effective in developing the targeted English speaking skills. The research is concluded by providing suggestions for future instructional practice and research directions.

Keywords: Habits of mind, English speaking skills, EFL oral performance, technology-enhanced classrooms

Introduction

The increasingly dynamic digitized society and workplace of the 21st century have forced a significant paradigm shift in pedagogical practices requiring education systems to equip students with 21st-century competencies that enable them to meet the complex demands and challenges of the present and the future. The Partnership for 21st Century Skills (P21) provided a framework for 21st century learning which conceptualized 21st century competencies as a blend of content knowledge, specific skills, expertise, and literacies necessary to succeed in work and life (P21, 2015). 21st Century Skills encompass diverse inter-related skill sets: life and career skills; learning and innovation skills; information, media, and technology skills; and core-subject mastery and familiarity with interdisciplinary themes (Ledward, & Hirata, 2011).

21st century learning and innovation skills, referred to by educators as the 4Cs, include collaboration, communication, creativity, and critical thinking. Incorporating the 4Cs into English language education allow learners to integrate higher-order thinking skills with language skills by training them to work collaboratively and efficiently in diverse teams, communicate clearly and effectively, think critically across differences to solve complex problems, and make decisions, innovatively create new knowledge and solutions utilizing multiple media and technologies (Ratama et al., 2021). One of the skills which is included in 21st century learning skills is communication skills. This skill is required for the students in order enhance their ability to use oral and written language to interact and communicate appropriately with people in multicultural and multilingual environments (Aben Ahmed, 2022).

Of all the four English language skills, speaking plays a prominent role in communication. So, 21st-century education should ensure EFL learners' development of speaking skills which are indispensable for exchanging ideas and feelings, arguing thoughts, expressing needs, and facilitating working in multinational companies. Though the importance of English speaking skills, (Mishra, 2015) mentions, EFL learners struggle and get anxious when they are required to give a public speech or conduct a business presentation. This issue could be due to focusing on teaching reading and writing skills and neglecting speaking skills (Ko, 2010).

English speaking skills, as Idris et al. (2021) posit, is a complex skill for producing and managing interaction which entails developing subtle and detailed knowledge about why, how, and when to communicate such as posing a question, taking a turn in a conversation, justifying judgments, and considering listeners' feedback. In the same vein, Syafryadin et al. (2022) assure that higher-order thinking skills help foster English speaking skills and improve the quality and complexity of communication. Muhammadiyeva et al. (2020) affirm that engaging EFL students in critical and creative thinking activities enhances their abilities to discuss different perspectives and question data and evidence presented by speakers. Likely, Udin et al. (2020) assert that integrating critical thinking in teaching English speaking skills reinforces the students' speaking in terms of accuracy, fluency, and comprehensibility.

Therefore, the conventional methods of teaching and learning English language skills, particularly speaking, need to be reshaped and revised by integrating 21st century teaching pedagogies which has proved to promote 21st century learning skills. Suto (2013) states that effective teaching targets the minds of learners and aims at developing deep and lifelong learning. Additionally, Bee et al. (2013) assert that developing dispositional thinking and

engaging students in thinking activities help students comprehend and stop memorizing facts, apply information, and solve problems inside and outside the classroom. Accordingly, Elyousif and Abdelhamied (2013) assure that habits of mind (HoMs) are significant for students to think, practice, solve problems, communicate, and assess themselves as learners.

HoMs refer to " the characteristics of what intelligent people do when they are confronted with problems, the resolutions of what immediately apparent" (Costa, 2008, p. 15). Accordingly, providing students with the chance to learn and perform the thinking dispositions could form some patterns of student-exhibited behaviors (Davidson, 2013). Applying habits of mind encourages learners to select the appropriate pattern that should be applied with sensibility to the context (Abddulmotlb, 2016). It is worth noting that using Habits of Mind (HoMs) help students to think and express themselves effectively and communicate purposefully with others inside and outside classrooms to have a successful social and professional life. Moreover, Kasapoğlu-Akyol (2010) mentioned that technology proliferation affects all aspects of life including English language education. For this reason, educators have to align pedagogical approaches to this technological growth in order to engage learners and improve their achievement. Consequently, this research will shed much light on developing a technology-enhanced program based on HoMs and examining its effect of on EFL secondary stage students' speaking skills.

Research problem

As an English language teacher at the secondary stage, the first researcher found that the students were poor in speaking skills and most of them did not participate in classroom speaking activities. In addition, several teachers and supervisors of the English language are interviewed,

and they confirm that despite the essential role of speaking skills in classroom communication, it is still the most neglected skill and they assure that there is remarkable weakness of English speaking skills of secondary students as they rarely express their ideas, feelings, ambition or problems. Furthermore, reviewing previous studies confirms that EFL students encounter many problems in speaking due to focusing on teaching for the test which emphasizes written language skills and using traditional teacher-centered methods for instruction (e.g, Diyyab et al., 2013; Safein, 2012; Torky, 2006). Based on the aforementioned, which indicated a weakness in the English speaking skills of EFL students, the researchers sense the importance of using one of the innovative approaches that integrates thinking skills represented by HoMs to develop some EFL speaking skills.

In the light of reviewing the related literature and the pilot study, the problem of the present research can be identified in the weakness English speaking skills of first year secondary students. Therefore, the present research sought to answer the following research question: *How effective is a program based on some HoMs in developing English speaking skills of secondary stage students?*

Research hypothesis

This research tested the following hypotheses:

1. “There is a statistically significant difference between the mean scores of the control group and the experimental group in the post-speaking skills test in favor of the experimental group”.

2. “There are statistically significant differences between the mean scores of the control group and the experimental group in the pre and post-tests in each speaking sub-skill “content – organization - language-adaptation to audience and context - vocal delivery - nonverbal delivery” in favor of the experimental group”.

Review of Literature

Habits of Mind

Developing students' thinking skills leads to developing other skills. Swartz and McGuinness (2014) mention that the teachers' efforts to teach students thinking skills lead to helping them learn to control these skills and develop the habit of practicing them when needed. Another goal of teaching thinking skills is internalization which combines with metacognitive thinking to develop self-management and self-regulation. Therefore, Bee et al. (2013) illustrate that Habits of the mind are habituated through their efforts. Essentially, students start to explore and then develop their ideas and points of view, applying previous knowledge to new situations, and generating additional ideas for discussion. They also think and communicate clearly and accurately, not only explaining but also asserting their views to others. When interacting to re-building knowledge, they are interested and consider others' views with empathy and concern.

Thinking dispositions is necessary to use thinking skills effectively. Anderson (2004) confirms that using thinking skills strategies and instruments is not enough for learners. Some students are well-prepared with thinking strategies but do not dare to apply them in situations. In this context, Campbell (2005) affirms that HoMs have shown a new trend in both learning and

teaching. The appearance of HoMs depends on life-long learning, work in teamwork, formation of skills, and creativity. They can build students' learning ability, which is vital if learners need to be on a level of the quickly changing work elements, technology and also community. These lifelong learning strategies start to exist in HoMs such as 1) thinking freely; 2) pursuing accuracy; 3) being willing to learn continuously; 4) communicating clearly and accurately; and 5) taking risks responsibly.

Habits of Minds are a combination of many components. Costa and Kallick (2008, p. 17) stated that a Habit of mind is a combination of some skills, experiences, attitudes, tendencies, and indications. In addition, Bee et al. (2013, p. 130) affirm that HoMs means having a behavior to act rationally when faced with a problem for which a solution is not immediately available. Developing HoMs helps learners reason and administrate information to eliminate problems in classrooms. Many HOMS are interdependent. That is, they are not used independently of one another. One "habit of mind" may lead to other HoMs, or it may be the result of a previously adopted HoMs. In this context, Costa and Kallick (2008, pp. 18-38) list the HoMs as follows: “(1) Persisting, (2) Impulsivity Managing, (3) Listening with Concern, (4) Flexible Thinking, (5) Metacognition, (6) Accuracy Striving, (7) Posing Problems and Questioning, (8) Administering Previous to New Problems, (9) Clarity Thinking and Communicating, (10) Data Gathering Using All Senses, (11) Innovating, Creating, and Imagining, (12) Responding with Concern, (13) Taking the Risks, (14) Humor Finding, (15) Interdependently Thinking, (16) Open to Continuous Learning”.

Similarly, Swartz and McGuinness (2014) point out that teachers should teach specific thinking dispositions besides thinking skills if the teachers are willing to help the students to be

good thinkers. Accordingly, Campbell (2005) illustrates that current learning theories have shown much relevance to the concept of HoMs. He outlines the possible theoretical connections to HoMs given by learning models of information processing, metacognitive models, cognitive styles, constructivism, theory of social learning, and certain contributions to emotional intelligence.

Thinking about generating thoughts, ideas, and feelings is a significant component of speaking that precedes the process of expressing them. Hamid (2015) illustrates those differences in when, where, how, and to whom things are orally communicated may not only create a misunderstanding but it can also hinder the effective process of teaching and learning. Accordingly, Bee et al. (2013) pointed out that students need to be engaged in thinking activities that do not focus on simple memorization and reproduction of facts. Developing these thinking skills helps students comprehend and administer information to solve.

Furthermore, Keall (2010) confirmed that communication is a vital factor for understanding others' self-expression. Communication is also a significant factor to help others to understand one's self-expression. Therefore, communication, or the earnest oneself-expression, acts as the activity in which a person's habits of oneself-expression when developing self-knowledge and also self-control. Speaking routines are examples of the habits and types of thinking which need to be developed as the acquiring of these abilities can be achieved when learners think independently.

Speaking Skills

The Egyptian teacher's guide (2016, p.1) asserts that the main goal of the English course book for the first year is to equip students in the secondary stage with the needed language, thinking skills and study skills to effectively communicate and to comprehend speaking and writing skills competently. It also aims to provide students with the necessary experience to use these skills inside and outside the classroom. The new skills and topics are presented gradually to the students to give them the chance to practice them before moving to the new items. The awareness of critical thinking skills and strategies for developing language and learning helps to support the learning process of the language and contributes to the improvement of a more independent learner.

In addition, AL-Masadeh and AL-Omari (2014) point out that speaking is more than a transmitted message between who speaks and who listens; in communication, the speaker becomes a subject and an object of their own message. Thus, the objective of learning to communicate is to have the ability to comprehend the spoken language and to give a suitable reply in the target language. According to the National Curriculum Framework for English as a Foreign Language (EFL) in Egypt (El-Araby et al, 2012, P. 8), the linguistic patterns, morphology, structure of sentences and text organization in the English language give learners the ability to use English creatively and critically for both pleasure and business. This engagement between language and culture helps the learners to develop the four skills of English to be fluent.

However, Lane (2013) affirms that despite the importance of critical speaking skills, implementing them in curricula is commonly ignored. However, learning how to speak a foreign language is a difficult process. Also, Hasan (2014) declares that teachers and learners of the foreign language find that speaking is the most complicated language skill; therefore this skill is completely ignored or weakly practised in the classroom. Teachers of the English language tend to focus on drilling, reading and writing tasks but seldom let their students practice speaking. Learning how to speak in English is effectively achieved when involved in speaking not any other skill.

For different reasons, some teachers and students concentrate on certain skills of the language more than other skills in different countries. Tejeda and Santos (2014, p. 152) state that teaching and learning EFL or ESL are complicated processes for both teachers and students. Every teacher decides the best teaching method to adopt but some teachers focus on specific aspects of the language rather than other aspects which leads them to neglect some skills which may be necessary for students. Moreover, El-Fiki (2012) points out that the EFL test types force secondary-stage students to concentrate on written tests and postpone learning language skills. Therefore, when students join the university, most of them have a beginning English level in speaking or less. Torky (2006) indicates that speaking skills are not given the adequate time and attention when we teach English to students in the secondary stage. This might be due to the assessment system which concentrates on only writing and reading skills and neglects listening and speaking skills. The research proved that 88% of EFL teachers and supervisors do not have the professional-level information required for teaching English to secondary-stage students. When they were asked about teaching speaking, most of them focused on grammar, structure,

and pronunciation but did not mention coherence, cohesion, organization, appropriate discourse markers, or controlling conversation. 90% of the teachers informed that they could not teach speaking skills due to the short time of the session.

In addition, Akbar (2014) states that teaching EFL is a challenging task, especially when teaching speaking skills as they are the core of language skills. Furthermore, Simon (2013) indicated that resistance is the major obstacle that student has in English classes. It is not an easy task for students to speak, especially in front of others as they do not feel confident enough or trust in their abilities. Safein (2012) posits that little exposure to the target language, particularly speaking elements such as pitch, intonation, and stress besides the non-verbal communication elements such as body language, facial expressions, and postures, results in poor English speaking, especially in fluency and use of idiomatic expressions.

Moreover, Khader (2011) confirmed that speaking skills contain a group of abilities that enable the persons to be confident and fluent which make them good speakers. These abilities help students to effectively analyze information, comprehend, communicate, critique, and express ideas. To communicate efficiently, speakers must conduct awareness of the audience, fluency, and clarity. To encourage the student to speak in the classroom is that the teacher should create a positive climate which motivates the students to speak.

On these grounds, it becomes evident that there is a need to employ innovative teaching approaches that stimulate EFL learners' deep thinking and speaking skills. Ali and El-Henawy (2015) and Abd El-Samed et al. (2018) assure that teachers should adopt teaching approaches that provide EFL learners with opportunities to actively practise and use the English language

contextually and creatively in expressing themselves and sharing ideas and experience in a natural and rich environment. The integration of HoMs and speaking skills in a technological environment enables the student to communicate well using modern technology. Moreover, Aldera and Mohsen (2013) point out the benefits of modern technology, particularly providing authentic materials and adding various modes that facilitate language acquisition. Similarly, Bozan (2015) stated that learners are unique, and every learner learns according to his ways and his personality, level of intelligence, background and learning style that he prefers this difference may be a challenge in language learning classes.

Methodology

Participants

The participants of this research were fifty students in first-year secondary school in Port Said military Secondary School for boys (class 1-3 as a control group and class 1-6 as an experimental group). The students in the two classes are ordinary students from the same school. Although the two classes consisted of larger numbers the participants were the students who attended class and the program punctually. Some of the students also expressed their unwillingness to participate in the experimental group saying that speaking skills are not included in their evaluation marks. Some said that they were not used to doing such activities. So, the final number of members of each group was 25 students.

Instruments

To achieve the aim of the current research, a pre-post speaking skills test and a scoring rubric were developed. The oral communication skills pre-post-test was designed to assess students' English speaking skills in the light of a list of speaking skills that was designed to identify the main English speaking skills required for first year students of the secondary stage. The skills list is based on the objectives included in The National Curriculum Framework for English as a Foreign Language (EFL) 2011-2012, the teacher's guide of "Hello! English" for first secondary stage (2016-2017), the student's text book as well as literature review and related studies. The skills list was prepared in the form of a questionnaire for rating the degree of importance of each skill. The questionnaire was presented to a jury committee in the field of Curriculum and Instruction (EFL) consisting of professors and lecturers at the university and English supervisors in Port-Said directorate to evaluate the selected skills in terms of the importance of each skill for the first secondary stage students. According to the jurors' opinion on the speaking skills, the final form was developed.

The aim of the test was twofold: (a) assessing the speaking skills in the six sub-skills in the light of the selected skills of the speaking skills questionnaire before applying for the program, (b) determining the effectiveness of the program to develop speaking skills of the students at the first-year secondary stage. The test included three sections that included seven questions to show how many students obtain the ability to use the six domains of speaking skills: "content, organization, language, adaptation to audience and context, vocal delivery, nonverbal delivery". Each section covered all the sub-skills. The total score for the whole test is 84 marks. Scoring the test was divided according to the rubric domains, with 12 marks for each question.

- Section 1: Giving Oral Presentation. In this section (questions 1 and 2), students were asked to give two oral presentations. Students used formal language to give their presentations.
- Section 2: Engaging in the discussion of given topics or current events. In this section (questions 3 and 4), students were asked to discuss the good and bad points of two different topics.
- Section 3: Expressing opinions and attitudes. In this section, (questions 5 and 6) students were asked to give a simple speech to express their opinion and feelings about two different subjects. In the same section (Question 7), students were asked to respond to the following situations showing the speaker's feelings.

Test Validity and Reliability

The test was submitted to a jury committee in the Curriculum and Instruction field (EFL) and English supervisors in Port Said directorate to determine its validity. The jury members agreed on the validity of the test. In addition, using the SPSS program (Cronbach's Alpha), the reliability of the test was calculated, and the test was proved to be reliable at (0.74) and significant at (0.01).

The scoring rubric of the pre-posttest

To evaluate the participants' speaking skills level before and after studying the program, the researchers developed a scoring rubric. The rubric is a four-dimensional scale. It is divided into six domains: “content, organization (introduction, body, and conclusion), language, adaptation to audience and context, vocal delivery, and nonverbal delivery”. The speaking skills

Rubric was adapted from The University of Southern Mississippi - Quality Enhancement Program - Oral Communication Assessment Rubric.

The HoMs-based program

The proposed program aimed at enhancing secondary students' speaking skills. The program was based on the HoMs which are persisting, impulsivity managing, understanding and empathy when listening, flexibly thinking, thinking about thinking, accuracy, questioning and creating problems, administering previous knowledge to new problems, clarity in thinking and communicating, collecting data, creativity, innovating, wonderment responding, risks in taking responsible, finding humor, freely thinking and. Thus, the major goals of the HoMs program for developing secondary students' speaking skills were: 1) training students on using HoMs to master the thinking process involved in planning, production, and revising of speaking, 2) enhancing the students' capabilities to monitor and manage their speaking, 3) developing the students' positive attitudes about themselves as English language speakers. The previously mentioned aims are translated into the following program objectives (table 1).

Content of the program

The first researcher selected some lessons from the first-year secondary stage student's book syllabus, which gives them the chance to teach the speaking skills program. The researchers designed the HoMs activities and embedded them with the activities in the lessons.

Table 1

Objectives of the program

| Domains | Sub-skills |
|--|--|
| 1. Content | <ul style="list-style-type: none">• State Central idea orally• Speak directly on point• Provide strong support for the main idea• Use expressions of attitude• Use expressions of opinion• Use expression of feelings• Give explanations for unclear points• Deal with objections• Compare ideas |
| 2. Organization | <ul style="list-style-type: none">• Present thoughts in a purposeful sequence• Present thoughts in a logical sequence• Remain focused on the subject |
| 3. Language | <ul style="list-style-type: none">• Use grammatically correct utterances• Pronounce words correctly• Choose appropriate words |
| 4. Adaptation to Audience and Context | <ul style="list-style-type: none">• Use an appropriate style for the audience• Use an appropriate style for the context• Make effective use of time• Answer questions from the audience |
| 5. Vocal Delivery | <ul style="list-style-type: none">• Use varied Vocal delivery• Use dynamic Vocal delivery• Use speech rate effectively• Use speech volume accurately• Use speech tone appropriately |
| 6. Nonverbal Delivery | <ul style="list-style-type: none">• Use body language to enhance the message• Use facial expressions to enhance the message• Use eye contact to keep the audience attentive |

Program Administration

To ensure the validity of the program content and activities with the first-year students and adjust the timing for tasks and activities, some sample activities were randomly selected and taught to a class of 28 first year students were randomly selected. During the pilot study, the first

researcher noticed that some students were somewhat hesitant and shy at the beginning either inside group discussions or speaking in front of all students. Therefore, the first researcher motivated them to participate and talk freely. Some of them were afraid of making mistakes. Some of them were not interested as it was not included in the test. The researchers modified the content of the program in light of the pilot study as follows:

- Some instructions were modified or removed, and others were added to facilitate students' understanding.
- Some procedures were modified and/or rearranged to be more appropriate for the students.
- It was clear that all the HoMs not only have their role to improve students' speaking skills, so the program was modified to use the “habits of mind”.

The suggested program consisted of ten sessions. Every session lasted for two periods. The first researcher applied the steps that were coordinated with using the HoMs to develop the target speaking skills. For the experimental administration of the program, the steps that were consistent with using the HoMs to develop the target speaking skills were followed. The total hours of instruction were (20) periods, (and 10) sessions two periods each.

Table 2*Basic Procedures Followed through the Sessions*

| Session stages | Procedures |
|--|---|
| <p>1. Launch (Previewing) The teacher sets learning as a challenge for the students at this stage and engages their interest stressing the selected HoMs used in this session.</p> | <ul style="list-style-type: none"> • Brainstorm about the objectives of the session • Play a video related to the target skills and discuss it. • Prepare tasks as a challenge to draw students' interest. • Elicit uses HoMs to develop the target skills. • Give out HoMs checklists and speaking skills rubric parts to help students to make sure they use the selected HOMS properly to enhance the target speaking skills. • Link the current learning process to previous learning/ activities. • Give time for students to seek clarity. • Model skills and capabilities that students need to explain. |
| <p>2. Activities (during Viewing) During this stage, the teacher engaged students in an activity/ challenge where they enhance the target speaking skills in the context of the subject using the selected HoMs used in this session.</p> | <ul style="list-style-type: none"> • Have students plan and organize work. • Have students do individual, peer and collaborative activities. • Have students “think, pair, share” ideas and views. • Use thinking frames (the selected HoMs) in the steps to do the activity. • Effectively use questions to further skills (e.g., questions that ask for explanations, search for reasons, explore options, invite inquiry, etc.). • Using mobile phones to record their performance. • Have students work in groups on the task. • Depend mainly on students' Self and pair correction |
| <p>3. Conclusion (After viewing) This stage gives a chance to combine the learning HoMs and speaking skills) and encourage a language for speaking about what and how has been learned.</p> | <ul style="list-style-type: none"> • Students in groups discuss their colleagues' performance. • Each group made a report about the good and bad points and how to modify them using the selected HoMs used in this session. • Students watch the videos of their colleagues and check on their reports again. • Conduct a well-planned full session that includes a complete review of the skills used to finish the activity. • Use some questions to let the students think about the skills and abilities they explain (ex: ‘What difficulty did you find?’ or ‘How did HoMs help you to be able to do?’). • Reflect on or re-exercise key skills and competencies learned as a final activity. • Link learning to the other contents. |

To evaluate the participants during the program, the researchers used:

A) Formative evaluation by engaging the participants in some tasks to be evaluated in each session. These tasks included internet searches related to the topic, observing and recording their performance, checking their mistakes, and taking notes. The researcher asked the participants to evaluate themselves and their colleagues by recording videos of their performance then he asked them to comment on these videos using HoMs checklists and speaking rubrics and point out the positive and negative points.

B) Summative evaluation that was conducted at the end of the program to evaluate the effectiveness of the program in achieving its aims. It was conducted by applying the post-application of the speaking skills test on both the control group and experimental group after implementing the program.

Results and Discussion

The First Hypothesis

The first hypothesis of the present research was “There is a statistically significant difference between the mean scores of the control group and the experimental group in the post-speaking skills test in favor of the experimental group”. To test the hypothesis, the t-test "SPSS" program was used to compare the students' total mean scores on the post-test. Table 3 shows the related findings for the first hypothesis.

Table 3

T-Value of the difference between the mean scores of the control and experimental groups in the speaking skills in the post-test and their significance

| Group | Number of Participants | Mean scores | Standard Deviation | T-value | df | Significance |
|--------------|-------------------------------|--------------------|---------------------------|----------------|-----------|---------------------|
| Control | 25 | 23.6000 | 2.81366 | 33.618 | 48 | .001 |
| Experimental | 25 | 61.4400 | 4.87408 | | | |

Table (3) indicates that the t-value (33.618) is significant at the level of .001. This result states that “there is a statistically significant difference between the mean scores of the control group and the experimental group in the post-speaking skills test in favor of the experimental group”. This result assures that the program was effective in developing the speaking skills of the experimental group. The first hypothesis is verified.

The Second Hypothesis

The second hypothesis of the present research was “There are statistically significant differences between the mean scores of the control group and the experimental group in the pre and post-tests in each speaking sub-skills “content – organization - language-adaptation to audience and context - vocal delivery - nonverbal delivery” in favor of the experimental group". To test the hypothesis, the t-test "SPSS" program was used to compare the students' total mean scores in each speaking sub-skill in the post-test. Table 4 shows the related findings for the second hypothesis.

Table 4

T-test value for the differences between the mean scores of the post-tests of the control group and the experimental group of the speaking sub-skills

| | Sub-skill | Posttest control group | Posttest experimental group | T-Value | df | Significance |
|---|------------------------------------|-------------------------------|------------------------------------|----------------|-----------|---------------------|
| 1 | (Content) | 4.2400 | 10.7600 | 17.955 | 24 | .001 |
| 2 | Organization | 3.9200 | 10.4400 | 24.077 | 24 | .001 |
| 3 | Language | 4.9200 | 9.8000 | 17.282 | 24 | .001 |
| 4 | Adaptation to Audience and Context | 4.0400 | 10.0400 | 17.833 | 24 | .001 |
| 5 | Vocal Delivery | 3.5200 | 10.2800 | 24.082 | 24 | .001 |
| 6 | Nonverbal Delivery | 3.1200 | 10.1200 | 26.063 | 24 | .001 |

The analysis of the obtained data in the posttest performance of the control and the experimental group it becomes clear that the suggested program is effective and leads to accepting the second hypothesis. These results confirm that “There are statistically significant differences between the mean scores of the control group and the experimental group in the pre and post-tests in each speaking sub-skills “content – organization - language-adaptation to audience and context - vocal delivery - nonverbal delivery” in favor of the experimental group”. Therefore, this hypothesis is supported. These results assure that the program was effective in developing the speaking skills of the experimental group. The second hypothesis is verified.

The main purpose of the present research was to examine the effectiveness of a program based on some HoMs to develop the English-speaking skills of secondary school stage students. The results of the research proved that “There is a significant difference between the control group and the experimental group in the post-speaking skills test in favor of the experimental

group”. In addition, the results proved that “There is a significant difference between the scores of the control group and the experimental group in the pre and post-tests in each speaking sub-skills “content – organization - language-adaptation- verbal delivery - nonverbal delivery” in favor of the experimental group". The results indicated that the program proved the effectiveness of the habits of mind to develop English Speaking Skills of secondary school stage students.

As for the first hypothesis of the present research, analyzing this result assures that using HoMs helped the experimental group to solve their problems and overcome their fears. Using the traditional strategies did not help the control group to make the same achievement. In the pre-test, students in both groups could not generate ideas. They were unable to form the content. Therefore, they were helpless and stopped talking. All they uttered were incomplete sentences full of grammar mistakes. Most of the other speaking skills were missing. In the post-test, HoMs helped the experimental group to form the content, organize their ideas, use the correct language, adapt the appropriate style to the audience and context, vary their vocal delivery according to the situation and make the best use of nonverbal language. Using the traditional strategies did not enable the control group to overcome their problems or achieve remarkable development.

As for the second hypothesis of the present research, analyzing this result assures that using HoMs enabled the experimental group to master the different sub-skills needed to improve their English speaking skills. The differences between the performances of the experimental and the control groups’ members in each of the English-speaking sub-skills post-test are vast. In each session, using the selected "habits of mind", which were relevant to the target speaking skills, provided the experimental group members with the chance to organize their thinking processes, make their plans and arrange their steps. This was their first step to gaining confidence and

starting to enjoy doing English-speaking skills activities. They were no longer afraid or feeling inarticulate. The control group showed a disability to master the same sub-skills depending on using the traditional strategies to teach speaking skills.

The results of this research expand upon the previous research on the importance of replacing traditional methods of teaching with innovative teaching strategies to develop EFL speaking skills, motivate and empower the students to increase their confidence, self-esteem, and autonomy (Diyyab et al., 2013; El-Sayed et al., 2020; Safein, 2012; Torky, 2006). This research demonstrates the positive effects of using HoMs on promoting EFL speaking skills. Therefore, the research results align with those of Muhammadiyeva et al. (2020), Udin et al. (2020), and Syafriyadin et al. (2022), which assured that integrating higher-order thinking skills and dispositions such as critical, creative, and problem-solving skills improves EFL learners' oral production

Conclusions

Findings show that the HoMs-based program helped EFL secondary school students to speak more fluently, accurately, and freely. While the present research has exemplified and examined how the HoMs could be used as a pedagogical approach for improving English oral production, as one of the 21st-century skills in secondary EFL classrooms, there is a need for more empirical investigations which can uncover additional possibilities and challenges related to the applicability of HoMs as a basis for EFL pedagogical practice.

In light of the results and conclusions of the current research, the following pedagogical recommendations are suggested:

- Teachers need more professional training on integrating thinking skills with language skills.
- Curriculum designers could design integrate HoMs and the four Cs in course books.
- The activities in the course books should be based on authentic situations to engage learners in meaningful tasks and prepare them to for the future.
- Changing the teacher's role from being the only and main source of information to a facilitator and a guide in the teaching process to manage it and encourage students to use thinking skills to learn.
- During teaching speaking skills, the teacher should provide students with an encouraging, effective, and supportive environment to foster interaction and enhance the student's speaking skills.
- Speaking skills should be evaluated and tested as the other language skills.

To extend the findings of this research, the researchers recommended the following areas for future research:

- Examining the effects of HoMs on English speaking skills of students with different abilities and at different educational levels
- Investigate the effects of HoMs on other English language skills such as writing, reading, listening, vocabulary development, and grammar learning.
- Examining the effectiveness of infusing HoMs with interventions for students with special needs.
- Examining the impact of incorporating HoMs in professional development on EFL teachers' mindset and teaching practices.

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